

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NORTH CAROLINA
NORTHERN DIVISION

SEVERN PEANUT CO., INC.,
MEHERRIN AGRICULTURE &
CHEMICAL CO., and TRAVELERS
PROPERTY CASUALTY COMPANY OF
AMERICA as Subrogee of Severn
Peanut Co., Inc. and Meherrin
Agriculture & Chemical Co.,
Plaintiffs,

vs.

DOCKET NO. 2:11-cv-00014-BO

INDUSTRIAL FUMIGANT CO. and
ROLLINS, INC.,
Defendants.

VIDEOTAPED DEPOSITION
OF
LESTER V. RICH

At Mount Pleasant, South Carolina

Reported by:

July 30, 2013 - 9:13 a.m.

Cherie J. Anderson

A P P E A R A N C E S

FOR THE PLAINTIFFS:

Howard M. Widis

Jay M. Goldstein

QUICK WIDIS & NALIBOTSKY

2115 Rexford Road, Suite 100

Charlotte, North Carolina 28211

(704)364-2500

(704)365-8734 Fax

hwidis@qwnlaw.com

jgoldstein@qwnlaw.com

FOR THE DEFENDANTS:

Steven B. Epstein

POYNER SPRUILL

301 Fayetteville Street, Suite 1900

Raleigh, North Carolina 27601

(919)783-6400

(919)783-1075 Fax

sepstein@poynerspruill.com

ALSO PRESENT:

Michael Beish, Videographer

Keith Scott

Deposition of Lester Rich

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1 I, Cherie J. Anderson, being a
2 Registered Professional Reporter and Notary Public,
3 was appointed Commissioner by consent to take the
4 deposition of Lester V. Rich, on July 30, 2013, at
5 9:13 a.m., in the offices of Bluestein Law Firm,
6 located at 1040 E Wall Street in Mount Pleasant,
7 South Carolina.

8 _____
9 THE VIDEOGRAPHER: This is the videotaped
10 deposition of Lester Rich, taken by Steven Epstein
11 in the matter of Severn Peanut Company,
12 Incorporated, Meherrin Agriculture & Chemical
13 Company, and Travelers Property Casualty Company of
14 America as subrogee of Severn Peanut Company,
15 Incorporated and Meherrin Agriculture & Chemical
16 Company, Plaintiffs, v. the Industrial Fumigant
17 Company and Rollins, Incorporated, Defendants.

18 This deposition is being held in the offices
19 of Bluestein Law Firm located in Mount Pleasant,
20 South Carolina.

21 Today's Tuesday, July 30th, 2013. The time
22 now is 9:13 a.m.

23 The court reporter is Cherie Anderson with
24 the firm of Clark & Associates, Incorporated,
25 located in North Charleston, South Carolina. The

1 videographer is Michael Beish with the firm of
2 Clark & Associates located in North Charleston,
3 South Carolina.

4 Would counsel please introduce themselves.

5 MR. WIDIS: Howard Widis representing the
6 plaintiffs.

7 MR. GOLDSTEIN: Jay Goldstein representing
8 the plaintiffs.

9 MR. EPSTEIN: Steve Epstein representing the
10 defendants.

11 THE VIDEOGRAPHER: Will the court reporter
12 please swear in the witness.

13 THE COURT REPORTER: Please raise your right
14 hand, sir. Do you swear or affirm to tell the
15 truth, the whole truth, and nothing the truth?

16 THE WITNESS: I do.

17 LESTER V. RICH

18 having been first duly sworn, was examined and
19 testified as follows:

20 DIRECT EXAMINATION

21 BY MR. EPSTEIN:

22 Q Good morning.

23 A Good morning.

24 Q Mr. Rich, as I think you know, my name is
25 Steve Epstein. I represent the defendants in this

1 case, and I'm here today to take your deposition
2 because you've been designated by the plaintiffs in
3 this case as a testifying expert witness.

4 You understand that, correct?

5 A Yes.

6 Q You've taken -- had your deposition taken
7 several times before, correct?

8 A Yes.

9 Q You know what the process is?

10 A Yes.

11 Q You don't need me to familiarize you with the
12 rules, do you?

13 A No, I don't think so.

14 Q All right, sir. I'm going to start by showing
15 you what I marked as Exhibit 190.

16 (Exhibit No. 190 was marked for
17 identification.)

18 Q And Mr. Rich, I'm going to ask you if you can
19 identify what Exhibit 190 is.

20 A Yep. Looks like a copy of the case log or
21 management log for the file.

22 Q Okay. And for whose file?

23 A For mine.

24 Q And what is a case management log as you keep
25 one in your business?

1 A It's just a record of activities, dates,
2 times, that type of information.

3 Q All right. Does Exhibit 190 represent all of
4 the work that you have done related to any
5 investigation as to the origin and cause of the fire
6 at the Severn peanut dome that occurred in August of
7 2009?

8 A it does through 7/15, yes.

9 Q All right. And tell me what you've done since
10 July 15th related to your work in this matter.

11 A Primarily it would be deposition preparation
12 or meetings with Mr. Howard or Mr. Widis.

13 Q Okay.

14 A Maybe some tele- -- I'm sorry. Maybe some
15 telephone calls.

16 Q Have you reviewed anything between 7/15 and
17 today, 15 days later, that you had not reviewed prior
18 to July 15th?

19 A Yes -- well, I'm not exactly sure of the
20 dates, but I have had a chance to briefly look at
21 some of the expert -- defense experts' reports.

22 Q And you've done that --

23 A I think that's been since the 15th.

24 Q Okay. You said you made some telephone calls.
25 To the extent those were not with Mr. Widis or

1 anybody at his law firm, tell me what those telephone
2 calls were.

3 A Most of them were with him. I believe I did
4 have one or two telephone calls with John Schumacher,
5 one of the other experts in this case.

6 Q Okay. When was that?

7 A I don't actually -- I don't know the date
8 exactly. It would have been -- this is -- let's see.
9 Today is Tuesday. I believe it would have been the
10 first part of last week.

11 Q All right. Tell me about that telephone call
12 you had with Mr. Schumacher the first part of last
13 week.

14 A We just talked about -- what did we talk
15 about? The -- a little about the case, about my
16 report, about his report a little bit. I think at
17 that point we -- I had seen Montross's report. I
18 believe we talked briefly about it. And then we -- I
19 think we followed that up the next day with a
20 conference call with Howard. So I think we were
21 talking a little bit about the conference calls.

22 Q Okay. You talked with Mr. Schumacher, who's
23 also been designated, as you know, as a testifying
24 witness for the plaintiffs, correct?

25 A Correct. Yes.

1 Q About Dr. Montross's report?

2 A Yes, sir.

3 Q What did you talk about regarding that report?

4 A Just basically review -- just kind of talked
5 about what was in it. I had a question -- I noticed
6 that he referred to a model that he had used which
7 I'm not familiar with. I had asked Schumacher about
8 that. That's -- I think that's probably about it.
9 Just, you know, general conversation about did you
10 read the report, did you see that report, that kind
11 of --

12 Q All right. You specifically talked about the
13 model that Dr. Montross used regarding temperatures,
14 correct?

15 A Yes.

16 Q All right. What did Mr. Schumacher tell you
17 about that model?

18 A I don't think he was familiar with it, either,
19 and that was -- I think that's kind of the substance
20 of the conversation is I haven't heard of this, I'm
21 not familiar with this type of model. And I believe
22 that he indicated that he was familiar with like
23 maybe a different -- similar model but yet different
24 of some sort.

25 But that's kind of the substance of that.

1 Q Did you come away from your phone conversation
2 with Mr. Schumacher with any better understanding of
3 the model that Dr. Montross used in his report?

4 A No.

5 Q Okay. Did you come away from your conference
6 call with Mr. Schumacher with a different
7 understanding or a better understanding of anything
8 that relates to your expert opinions in this case?

9 A No, I don't believe so, because we didn't
10 really talk about, you know, our reports or my
11 report. It was more a conversation about that and,
12 frankly, mostly about the model, had he heard of that
13 or had I heard of that.

14 Q All right. Let me show what we're going to
15 mark as Exhibit 191.

16 (Exhibit No. 191 was marked for
17 identification.)

18 A Okay.

19 Q Can you identify what Exhibit 191 is, please.

20 A It's a copy of the invoices that have been
21 submitted to date, I believe, of the -- let's see.
22 That was through May -- yeah, invoices through
23 May 8th of 2013.

24 Q Okay. And would you quarrel with me if I told
25 you that the invoices through that time represent

1 approximately \$100,000 that's been paid to you and
2 your business?

3 A I haven't added it up, so I wouldn't quarrel
4 with you.

5 Q Okay. And tell me, if you would, what you
6 have or intend to bill for your services since
7 May 8th until today, based upon the work that's in
8 your case management log, Exhibit 190 --

9 A Okay.

10 Q -- and the work done since then until now.

11 A Let's see. Last page. That would be -- what
12 was -- May 18th -- I think this is -- I think this
13 one picks up with May 8th. Okay. Yeah, that was
14 the end. So it would be the items on the last page,
15 which are through July 15th.

16 Q Last page of Exhibit 190?

17 A I'm sorry. Yes.

18 Q Okay.

19 A Which starts at the top May 31st. It would
20 be that time plus yesterday's deposition
21 preposition -- deposition preparation time, a couple
22 of -- like I said, a couple of telephone calls, maybe
23 a couple of conference calls.

24 Q So how much additional time that's not on the
25 last page of Exhibit 190?

1 A It would be an estimation, but I would say ten
2 hours, maybe.

3 Q Okay. So if we add up the ten hours estimate
4 that you just provided plus all the time on the last
5 page of Exhibit 190 and multiply that by your hourly
6 rate, we would have the additional amount that you
7 intend to invoice, correct?

8 A Correct.

9 Q And what is the amount that you're charging
10 per hour?

11 A 140.

12 Q Okay.

13 A Of course that doesn't include today's
14 deposition.

15 Q You actually get to charge me for that.

16 All right. I'm going to hand you what we're
17 marking as Exhibit 192.

18 (Exhibit No. 192 was marked for
19 identification.)

20 Q Mr. Rich, can you identify what Exhibit 192
21 is.

22 A Yep. This would be a copy of the report that
23 I submitted to Quick Widis with the appendix listing
24 the documents reviewed, references, as well as my CV
25 and my previous testimony and the -- our current 2013

1 rate sheet.

2 Q All right. And is, as far as you know,
3 everything in the appendices to Exhibit 192 accurate?

4 A Yes.

5 Q That would include the materials that you
6 reviewed, it would include your CV, it would include
7 the prior testimony?

8 A Yes, sir. As far as I know, it's accurate.
9 Absolutely.

10 Q And is your prior testimony list complete?

11 A Yes. I believe that I only have to provide it
12 back four years, but that's the complete list. I
13 just keep adding to the list that I have.

14 Q Okay. So if I understand you correct, those
15 are all of the times that you have testified under
16 oath as an expert witness in your career?

17 A Yes.

18 Q And that would be 11 times prior to today?

19 A Right. And one of those is -- well, yeah,
20 it's 11 times of testimony, but there was some
21 duplicity because a guy got re- -- had a retrial, and
22 then there was a deposition followed by a trial.

23 Q Okay. And your CV contains a complete and
24 accurate list of all of your publications, all of
25 your speeches, all of your conferences, all of your

1 training, and so forth?

2 A Yes. It's current through whatever the date I
3 have up there of April 13th. I don't believe
4 there's anything that I've added since then.

5 Q Okay. Mr. Rich, you went to Appalachian State
6 University to obtain your college degree, correct?

7 A I did.

8 Q You received a BS?

9 A Yes.

10 Q And what was that in?

11 A Criminal justice.

12 Q Okay. You did not major in any science?

13 A No.

14 Q How long did you attend Appalachian State?

15 A I was there from '82 to '86, 1986.

16 Q So four years?

17 A Yes.

18 Q What was your GPA when you graduated?

19 A I don't remember. Probably a low 3, maybe.

20 Q On a 4-point scale?

21 A Yeah. Yeah. Probably a low B, high C, I
22 would guess. I don't really remember.

23 Q Okay. Did you have -- were you assigned a
24 class rank at the conclusion of your academic career?

25 A Not that I know of.

1 Q Okay. Did you fail any courses while you were
2 in college?

3 A Yes, freshman year.

4 Q Which --

5 A Physics.

6 Q Did you have to retake that course?

7 A I did not retake that course.

8 Q You just didn't get any credit for it?

9 A Correct.

10 Q Is that the only course you failed while you
11 were in college?

12 A I believe so, yes.

13 Q Did you make any Ds while you were in college?

14 A Yes, I believe I did.

15 Q What did you make a D in?

16 A I think two, precalculus and chemistry.

17 Q You made a D in chemistry?

18 A Uh-huh.

19 Q Is that a yes?

20 A Yes.

21 Q What year did you take chemistry?

22 A My freshman year.

23 Q And what year did you take precalculus?

24 A My freshman year.

25 Q So am I accurate in saying that in your

1 freshman year while at Appalachian State University,
2 you made two Ds and an F?

3 A Yes, I believe that's correct.

4 Q And one of those Ds -- I'm sorry. One was of
5 the Ds was in chemistry and the F was in physics?

6 A Yes.

7 Q Is there chemistry and physics involved in
8 fire science, sir?

9 A Yes.

10 Q Okay. Did you take further courses in
11 chemistry and physics during the course of your
12 career at ASU?

13 A I did. I retook the chemistry course.

14 Q Okay. Did you retake any physics while you
15 were in college?

16 A No, I didn't retake any physics.

17 Q And just took -- the same chemistry course
18 that you made a D in, you took again?

19 A Yes, because it was -- I believe it was like a
20 split -- it was a semester -- it was like two parts.

21 Q Mr. Rich, do you have any education, training,
22 or experience in the field of agricultural
23 engineering?

24 A No.

25 Q Do you have any education, training, or

1 experience in the field of biosystems engineering?

2 A No.

3 Q Do you have any education, training, or
4 experience in the field of crop science?

5 A No.

6 Q Do you have any education, training, or
7 experience in the field of forensic chemistry?

8 A Forensic chemistry?

9 Q Yes.

10 A Yes.

11 Q Tell me about the training you have in the
12 field of forensic chemistry.

13 A Well, the certified fire investigator program
14 that I participated in with ATF, a segment of that
15 both dealt with chemistry, and it would be, I guess,
16 forensic chemistry in the issues like related to
17 crime scene processing and laboratory analysis of
18 samples, that type of thing, I guess would be the way
19 to kind of characterize that.

20 Q Okay. As part of that training, did you
21 receive training in experimentation related to the
22 origin and cause of fire?

23 A I don't exactly understand what you mean as
24 far as experimentation. Like --

25 Q In terms of reproducing a fire through a means

1 or method that might have been the cause of a fire.

2 A Oh, yes.

3 Q You did?

4 A Yes.

5 Q As part of that training that you just
6 described through ATF?

7 A Yes. And maybe specifically part of the
8 forensic chemistry but also throughout other aspects
9 of the ATF training. I don't know if it necessarily
10 was specific to a chemistry portion, but throughout
11 that training.

12 Q Okay. And when was that training that you
13 received that related specifically to forensic
14 chemistry?

15 A That would have been during the time that I
16 was in the certified fire investigator candidate
17 program, which would have been '90 -- let's see. I
18 finished that program in '97. So it's a two-year
19 program, so that would have been basically '95 to
20 '97.

21 And then prior to that, I was accepted into
22 the explosive specialist training program, which is a
23 separate designation. And there's -- I think some of
24 that training would have overlapped probably the
25 explosives training prior to me getting into the fire

1 investigator training.

2 Q Okay. Did any of your training in forensic
3 chemistry include the analysis of the flammable
4 properties of gases in a laboratory setting?

5 A I don't know about the analysis of flammable
6 gases, but it did include like gas chromatography,
7 analysis of samples that had been collected at a
8 scene, and then some of that training involved like
9 the collection of gases at a scene for later
10 analysis. So I don't know if that answers your
11 question or not.

12 Q It does. I take it you do not have the
13 requisite training/experience to perform laboratory
14 analysis of gases, correct?

15 MR. WIDIS: Object to the form. You can
16 answer that.

17 A Yes. I do not. I have done it in a training
18 environment, but no, I would not --

19 Q In other words, if you collected a sample of
20 gas at a fire scene for the purpose of laboratory
21 testing, it would be your approach to take that to a
22 certified laboratory and have it tested?

23 A Yes.

24 Q And I take it you've done that through the
25 course of your career?

1 A I have.

2 Q All right. Page 2 of your CV says that you
3 have over 3900 hours of classroom instruction and
4 practical instruction in fire- and arson-related
5 matters. Is that correct? Is that what it says?

6 A Yes.

7 Q And is that, in fact, accurate?

8 A Yes. That's an estimation, but yes.

9 Q All right. Can you tell me, of those 3900
10 hours of classroom instruction and practical
11 instruction, how many related to stored agricultural
12 commodities.

13 A Well, as far as fires involving that --

14 Q Correct.

15 A -- or just stored commodities in general? I
16 don't understand exactly.

17 Q As far as --

18 A I might be reading too much into your
19 question.

20 Q Fire- and arson-related matters. That's what
21 your CV says. You have 3900 hours of classroom
22 instruction and practical instruction.

23 A Okay. It would be an estimation, but the
24 training and classes involved various classes.
25 Portions of them would have involved training on

1 stored commodities, spontaneous combustion, bulk
2 storage or fires in warehouses, tobacco warehouses,
3 that type of thing.

4 Q All right. So if you package all of those
5 subtopics up into hours, out of the 3900 hours of
6 training that you've received, how many would you say
7 were devoted to those -- that package of subjects?

8 A I don't know that I can really estimate that.
9 I mean, I could guess, but I really don't know
10 because a lot of times in the training it's, you
11 know, a certain number of hours. You know, a session
12 or a block of instruction may be about agricultural
13 storage and then the next session might be incendiary
14 fires.

15 I really don't know if I could break that down
16 for you by hours.

17 Q Well, let me ask this specifically. Did you
18 receive specific training during those 3900 hours
19 regarding the self-heating of stored agricultural
20 commodities?

21 A Yes.

22 Q Do you think that was longer than an hour or
23 two of your training out of 3900 hours?

24 A Yes.

25 Q Do you think it was more than ten hours?

1 A Probably, by the time you add them all
2 together, yes.

3 Q Do you think it was more than 20 hours?

4 A I'm just trying to remember some of the
5 classes because normally those blocks are -- I would
6 have to say, if I was guessing, probably more on the
7 order of -- out of the 3900, maybe 100 of the hours
8 or more.

9 Q Related to self-heating of stored agricultural
10 products?

11 A Probably, yes, if you split it out, of course,
12 you know, across all the different classes that I've
13 taken. And like I said, there's not been -- I
14 haven't taken an eight-hour class on spontaneous
15 combustion or something like that. But by the time
16 you split them out, I would say -- but it's a
17 complete estimation on my part because, like I said,
18 it's a fragmented training regimen, I guess would be
19 the way to say that -- or it's attending different
20 blocks of instruction.

21 Q All right. Same question regarding the
22 chemical compound aluminum phosphide. How much of
23 your 3900 hours would have been devoted specifically
24 to aluminum phosphide?

25 A Specifically to aluminum phosphide, probably

1 not that much. The hazardous materials training that
2 I've had talks about combustion metals and flammable
3 metals, and I'm sure aluminum phosphide was
4 mentioned. But it wasn't, again, like a specific
5 two-hour class on aluminum phosphide. So the
6 combination of that -- and then, too, there's a --
7 the chemistry pyrotechnics class that I took also
8 dealt with combustible metals and that --
9 formulations, although it wasn't the entire -- the
10 class wasn't specific to aluminum phosphide.

11 Q All right. Let me ask specifically whether
12 any of your instruction, 3900 hours, related to the
13 use of aluminum phosphide as a pesticide.

14 A I would -- no, I don't believe so.

15 Q Okay. How much of your 3900 hours, if any,
16 related specifically to phosphene gas?

17 A I don't know that I can estimate specific. I
18 mean, like I said, phosphene and the other toxic
19 gases and flammable gases are included -- a lot of
20 the hazardous materials training as well as -- well,
21 mostly -- I would say mostly in the hazardous
22 materials training. But I don't know a way to
23 specifically estimate the number of hours devoted to
24 just that material.

25 Q Fair enough. Did any of your 3900 hours of

1 classroom instruction and practical instruction
2 include the specific topic of the spontaneous
3 ignition of phosphene gas?

4 A I don't know that it would -- not in like a
5 lecture format, but material that I've researched and
6 read would have included that.

7 Q Okay. So the reading component but not the
8 lecture component?

9 A Right. I don't recall a lecture on --
10 attending a lecture on the spontaneous ignition of
11 aluminum phosphide.

12 Q Or phosphene gas?

13 A Or phosphene gas. Right. Sorry.

14 Q Okay. I want to shift away from that
15 3900 hours we've been talking about and talk about
16 your fire investigations both during the time you
17 were with ATF and since the time you've been on your
18 own.

19 A Okay.

20 Q Approximately -- combining both together,
21 approximately how many fire investigations have you
22 been a participant in to date?

23 A Go back to this number here because this
24 doesn't -- I'll stick with the 1500 that's listed on
25 my CV. It's probably a little more than that because

1 that doesn't include fires necessarily that I've
2 worked this year, you know, as part of the company.
3 So that's a fair, accurate representation or
4 estimation, is about 1500.

5 Q Can you tell me the number of those 1500 that
6 involved a peanut storage warehouse.

7 A That I investigated?

8 Q Yes.

9 A Two.

10 Q That would be the E.J. Cox warehouse fire and
11 the Severn warehouse fire?

12 A Yes. Let's see. Oh, no, just the two. I
13 thought of another one, but it wasn't -- it's not
14 peanuts.

15 Q Okay. Well, this may get to the next
16 question. Can you tell me the number that involved a
17 warehouse storing any type of stored agricultural
18 commodity.

19 A Yes. Let's see. Warehouses -- probably --
20 and again, that's -- it's an estimation because I'm
21 trying to remember back through the fires that I've
22 been to. Overall the warehouses may be 25 to 30,
23 would be my estimation.

24 Q And that --

25 A Of various -- I'm sorry. Just of various

1 commodities or storage.

2 Q I know that includes two peanuts, two peanut
3 fires. My guess is the bulk of those are tobacco
4 fires, correct?

5 A There are, yes, several.

6 Q What else besides peanuts and tobacco?

7 A Carpet.

8 Q I'm focused on stored agricultural
9 commodities.

10 A Just agricultural stuff. Right. Sorry.
11 Well, that's not agricultural. It was like a meat
12 processing warehouse or food product warehouse.

13 Q I'm specifically focused on items grown in the
14 ground that's stored in a warehouse.

15 A Right. I would say -- what was the question
16 again? How many of those -- I'm sorry. I got off
17 track.

18 Q You said that there were 25 to 30.

19 A About warehouses, right.

20 Q Well, I asked you about storing any type of
21 agricultural commodity.

22 A Okay. I misunderstood you then. I would say
23 about 25 to 30 warehouse fires, and of those that
24 contained agricultural commodity -- was that --

25 Q Yes.

1 A That was your question. I'm sorry.

2 Probably -- the tobacco warehouses, maybe eight to
3 ten.

4 Q Okay. And besides peanuts and tobacco, are
5 there any other stored agricultural commodities
6 involved in a warehouse fire that you investigated?

7 A Oh, yes. Cotton.

8 Q How many cotton?

9 A How many fires?

10 Q Yes.

11 A I believe two, I believe.

12 Q So two cotton, two peanut, and four to six
13 tobacco?

14 A Yeah. I'm not completely sure on the tobacco
15 number, but that's -- that's a good estimation.

16 Q Okay. Did you, for any of those eight to ten
17 fires that you investigated involving stored
18 agricultural commodities, conclude that self-heating
19 or spontaneous combustion played a role in the fire?

20 A In the warehouse fires?

21 Q The --

22 A Just specifically that we just talked about?

23 Q Yes.

24 A Yes. The cotton, cotton bales.

25 Q Both cotton fires that you investigated, that

1 was your conclusion?

2 A One was undetermined. One was spontaneous
3 heating. I believe.

4 Q And where was the spontaneous heating fire?
5 Where was that located, that cotton fire?

6 A I believe it was here at Port Charleston. I
7 think that's the one I did while I was with ATF.

8 Q Were you the one who made the determination as
9 to the origin and cause of that fire, or did somebody
10 else at ATF make that determination?

11 A It would have been me, but there may have been
12 a state or local investigator involved, also, or
13 maybe somebody from the Port's authority, also.

14 Q What was it about that particular fire that
15 led you to conclude that self-heating or spontaneous
16 combustion was the cause of that fire?

17 A The -- just the facts surrounding the incident
18 and the investigation.

19 Q Were there temperature records that predated
20 the fire regarding that stored commodity?

21 A Not that I'm aware of.

22 Q Is that the only stored agricultural commodity
23 fire that during the course of your career you
24 concluded was caused by self-heating or spontaneous
25 combustion?

1 A For stored commodities?

2 Q Yes.

3 A I believe so, because I think the other -- the
4 other self-heating fires have not been stored
5 commodity.

6 Q All right. And you've used the term
7 self-heating. I've used the term self-heating.
8 Let's make sure we both know what each other's
9 talking about.

10 When you say self-heating in relation to a
11 stored agricultural commodity, what do you mean?

12 A I mean the commodity begins to heat up
13 independent of an external heat source.

14 Q Okay. And what causes self-heating in a
15 stored agricultural commodity?

16 A Normally it starts out with a biological
17 decomposition of the material that's organic
18 material, and that then can lead to a chemical
19 oxidation, kind of the next step.

20 But to answer your question, it would start
21 out with usually like a biological -- I would say a
22 biological event or decomposition.

23 Q And in your experience and training, what
24 leads to that -- what typically leads to that
25 biological decomposition?

1 A It's normally related to moisture content
2 within the stored commodity.

3 Q The normal moisture content or excess moisture
4 content?

5 A I would say excess.

6 Q Okay. Are there characteristics of stored
7 agricultural commodities that make them prone to
8 self-heating?

9 A Yes.

10 Q And what are those characteristics?

11 A Primarily that they're agricultural products
12 and they're therefore susceptible, to some extent, to
13 self-heating. And the storage configuration, the
14 storage -- the management, the warehouse management
15 storage practices, I guess, the way the stuff's
16 stored. The ambient conditions can affect that. And
17 then insect activity is -- could possibly affect
18 that, also.

19 That's kind of the -- off the top of my head.

20 Q Okay. And can self-heating in a stored
21 agricultural commodity lead to self-combustion or
22 spontaneous ignition?

23 A Yes, it can.

24 Q Have you seen that over the course of your
25 career?

1 A Yes.

2 Q What causes the process of self-heating to
3 eventually result in self-combustion or spontaneous
4 ignition?

5 A Well, it goes through a phase. So the
6 original -- the biological decomposition begins, and
7 that can raise the temperature, and then at that
8 point, the biological activity begins to cease. And
9 if oxidization then begins to occur, that can
10 continue to drive the reaction through what's called
11 thermal runaway, and then that thermal runaway can
12 advance to ignition or spontaneous combustion.

13 Q So if I heard you correctly, the process leads
14 from the self-heating to oxidization followed by
15 thermal runaway; is that right?

16 A It can. I mean, it doesn't always proceed --
17 in other words, the reaction will sometimes stop, or
18 you can have self-heating without having spontaneous
19 combustion. But that is the sequence, if it goes all
20 the way through.

21 Q What does it take for the oxidization to
22 occur? Oxygen?

23 A Yes.

24 Q Is there typically oxygen in a warehouse
25 environment?

1 A Yes.

2 Q Is there any extra oxygen beside the oxygen
3 that is typically in a warehouse environment that's
4 required?

5 A I don't follow you.

6 Q You said oxidation is the step that happens
7 after you get to a certain temperature and the
8 biological activity is no longer really the issue?

9 A Right.

10 Q Is there any additional oxygen that needs to
11 be supplied into the warehouse for that to occur, or
12 can it just -- oxidation occur from the oxygen that's
13 already there?

14 A Right. Yes. From the oxygen that's already
15 there. You don't need to add oxygen.

16 Q All right. All right. I want to go back to
17 the 1500 estimated fires that you've participated in
18 investigation of. I want to ask you the number of
19 those that related to the application of a pesticide
20 to a stored agricultural commodity.

21 A I believe it's just going to be the two, from
22 pesticide to stored agricultural commodity.

23 Q And that's E.J. Cox and Severn?

24 A Yes.

25 Q And in both of those instances, you concluded

1 that the origin and cause of the fire related to the
2 application of pesticide, correct?

3 A Yes.

4 Q And I think we're going to narrow this down to
5 one, but I would like to confirm that. The number of
6 the 1500 or so fires that you've personally
7 participated in investigation of that involved the
8 application of pesticide onto the surface of a stored
9 agricultural commodity?

10 A Well, it would be -- oh, as far as -- say the
11 question again. The origin of the fire -- is that
12 what you said? I'm sorry.

13 Q I'll repeat it.

14 A Yeah.

15 Q The number of the 1500 estimated fires in
16 which you've participated in the investigation that
17 related to the application of a pesticide onto the
18 surface of a stored agricultural commodity.

19 A Well, that would be two because, in part of
20 the instance at E.J. Cox, the pesticide was applied
21 to the surface. And then in Severn, it was also
22 applied to the surface.

23 Q All right. And remind me, if you would, did
24 you conclude that both the probed pesticide and the
25 surface-applied pesticide in E.J. Cox contributed to

1 the fire there or just the probed?

2 A Just the probed.

3 Q Okay. So is it, in fact, correct to say that
4 out of the 1500 or so fires in which you've
5 participated in investigation, there has been one in
6 which your conclusion was that the surface
7 application of a pesticide to a stored agricultural
8 commodity was the cause of the fire?

9 A Yes.

10 Q And that's the case we're here to talk about
11 today?

12 A Yes.

13 Q Let me ask you, forgetting about stored
14 agricultural commodities, the number of fire
15 investigations to date that you've been involved in
16 that related in any way to the application or
17 liberation of phosphene gas.

18 A Just the fires would be -- it would be the
19 two.

20 Q E.J. Cox and Severn?

21 A Yes.

22 Q Same question about aluminum phosphide. Same
23 answer?

24 A Yes, I don't recall another fire that involved
25 aluminum phosphide.

1 Q Okay. Mr. Rich, how many times have you been
2 qualified as an expert witness relating to the origin
3 and cause of a fire in a court of law?

4 A Let's see. I believe three.

5 Q Can you pick them out of the past expert
6 testimony for Lester V. Rich pages from your -- from
7 Exhibit Number 192.

8 A Yes. The U.S. v. Paul Ferrara was a criminal
9 case. The Runaway Bay Apartments v. Mid-America was
10 a civil case. State of South Carolina -- these were
11 just court testimonies, right?

12 Q Yes.

13 A Yeah. And the State of South Carolina v.
14 Wesley Max Myers was court testimony. The U.S. v.
15 Gary Dean Boone was explosives testimony. It was not
16 a fire origin. It was explosives related. And
17 Alasteri -- that was a deposition.

18 Those -- yeah. Just those that I mentioned --

19 Q So you've been --

20 A -- for the trials.

21 Q So you've been qualified four times by a court
22 to testify as an expert witness related to your
23 training and background in explosives and fire?

24 A Yes.

25 Q All right. The U.S. v. Paul Ferrara case,

1 that was tried in federal court in South Carolina?

2 A Yes, sir.

3 Q And you were qualified to testify as an expert
4 witness in June of 1999?

5 A Yes. I believe, yeah, that's when the trial
6 was.

7 Q That's while you were still with ATF, correct?

8 A Correct.

9 Q All right. The Runaway Bay Apartments, you
10 were qualified by a state court judge to testify as
11 an expert witness in that case; is that right?

12 A Actually, that was a federal civil case.

13 Q Okay. So it was federal?

14 A Yes. Because that was -- yeah, that was at
15 the federal courthouse in Charleston.

16 Q In Charleston?

17 A Uh-huh.

18 Q Okay. And that's also while you were still
19 with ATF, correct?

20 A Yes.

21 Q And that was in 1999?

22 A Yes.

23 Q It's -- okay. So that's a trial testimony.
24 You did both a deposition and a trial in that case?

25 A That's correct. I'm sorry. You're right.

1 Yeah, the deposition would have been in '99, and then
2 the trial was in 2000.

3 Q And you testified at trial regarding the
4 origin and cause of that fire?

5 A Yes.

6 Q The State of South Carolina v. Wesley Max
7 Myers, you were qualified to testify in that case as
8 to the origin and cause of the fire?

9 A Yes.

10 Q Was that in state court or in federal court?

11 A That was state court.

12 Q And that's also while you were with AFF,
13 correct?

14 A 2000 -- yes.

15 Q And that was in February of 2001?

16 A I have it here, 2000 -- well, that's the
17 retrial. I'm sorry. 2001. Yes, you're right.
18 You're right. I'm sorry. I was looking at the next
19 one.

20 Q Okay. And then U.S. v. Gary Dean Boone, you
21 testified in federal court in South Carolina in that
22 case?

23 A Yes.

24 Q And were qualified to testify as to
25 explosions?

1 A Yes. I was testifying -- it was about
2 explosion and evidence collection.

3 Q And you were still with ATF at the time in
4 June of 2002?

5 A Yes.

6 Q Am I correct then in saying that you have not
7 in over 11 years been qualified to testify as an
8 expert witness in any court?

9 A I don't think that's correct. I haven't
10 testified in court since -- I guess since Boone.

11 Q That's my question. There's no judge that's
12 qualified you to testify as an expert witness except
13 when you've actually appeared in court, correct?

14 A Yes. Correct. Correct.

15 Q And that hasn't happened since June of 2002,
16 correct?

17 A Yes.

18 Q Have you ever been challenged as an expert
19 witness by opposing counsel in any case?

20 A I don't think so, but I have had -- in the
21 E.J. Cox, we did prepare some documents for a
22 Daubert-style hearing that didn't materialize. So I
23 don't exactly know how to answer that. I think so,
24 but I'm not sure.

25 Q Well, you tell me if this is not a correct

1 statement. The case settled before it got that far;
2 is that correct?

3 A The case did settle, yes, but the documents,
4 as far as I know, were prepared. But I don't know
5 the time frame.

6 Q Outside of the E.J. Cox case, to your
7 recollection, have you ever been challenged as an
8 expert witness in a court?

9 A No, not that I'm aware of.

10 Q Has any judge ever not permitted you to
11 testify to an opinion you had intended to express but
12 for what the judge let you do?

13 A No.

14 Q And out of the four times that you've been
15 qualified to testify as an expert witness in federal
16 or state court, did any of those involve something
17 other than an allegation that someone had
18 deliberately set a fire?

19 A Yes.

20 Q Which one?

21 A The Runaway Bay Apartments. What was the
22 fourth one -- are you still counting Boone?

23 Q Yes.

24 A Okay. Yeah. Just Runaway Bay Apartments.
25 Right.

1 Q What was your opinion as to the origin and
2 cause of the fire in that case?

3 A That it was a chimney fire.

4 Q So correct me if I'm wrong, but the Runaway
5 Bay case is the only case in which you have testified
6 in court as to the origin and cause of what you
7 concluded was a non-incendiary fire?

8 A Yes.

9 Q All right. Mr. Rich, are there books,
10 treatises, monographs, or articles that you consider
11 authoritative regarding the proper method to
12 investigate the origin and cause of a fire?

13 A Yes.

14 Q All right. Would you tell me what they are.

15 A Well, the primary -- primary one that's in use
16 is the NFPA 921. There are also additional -- Kirk's
17 Fire Investigation, Forensic Fire Scene
18 Reconstruction.

19 Then as far as like references that you would
20 look at would be like Emission Handbook, Fire
21 Protection Handbook. There's -- there's an IFSTA
22 manual on fire investigation also.

23 Q Say that -- spell that.

24 A IFSTA, I-F-S-T-A. And I think that's the
25 International Fire Service Training Agency, I believe

1 is what that is. They're out of Oklahoma.

2 Those would be kind of the ones that I would
3 think of right off the top of my head.

4 Q That you would consider to be authoritative on
5 the subject of the proper methods to investigate a
6 fire?

7 A Yes.

8 Q Okay. And specifically for the fire
9 investigation that occurred in this case beginning in
10 2009, you considered the 2008 version of NFPA 921 to
11 be applicable, correct?

12 A Yes, that would be accurate, because the other
13 one was -- is a newer version.

14 Q Okay. Are there books, treatises, monographs,
15 or articles that you consider authoritative regarding
16 fire science generally? Would that be the same set
17 of books?

18 A I would say predominantly it would be the same
19 set of books, yes.

20 Q All right, Mr. Rich. As you know, we're here
21 to talk about the fire that occurred to a peanut dome
22 in Severn, North Carolina in August of 2009. I will
23 interchangeably refer to that as the dome, the peanut
24 dome, the Severn dome. If I refer to it as any of
25 those things, will you know what I'm talking about?

1 A Yes, or I'll ask you.

2 Q Okay. I understand that you actually began
3 your involvement in the investigation of that fire on
4 or about August 13th, 2009. Is that correct?

5 A Yes.

6 Q And to the extent you need to, with the use of
7 Exhibit 190, could you please walk us through the
8 beginning stages of your involvement in this matter
9 from the time you got the first phone call about it,
10 at least up until the time the fire -- you left the
11 fire scene, if you can walk us through that process.

12 A Okay. The -- I also have some dates written
13 out. So I don't know that the report necessarily
14 follows chronologically, if I could refer to a
15 calendar of some dates.

16 Q I'm going to do better than that.

17 (Exhibit No. 193 was marked for
18 identification.)

19 Q Let me show what we're marking as Exhibit 193.
20 Can you tell me what Exhibit 193 is.

21 A This looks like a copy of the timeline that I
22 prepared for Mr. Widis.

23 Q Approximately when did you prepare that
24 timeline?

25 A Approximately -- I'm going to say a year and a

1 half ago. It might be -- actually, it might be on
2 the case management log.

3 Q Okay. I believe it is. And so that will
4 accurately reflect when you prepared it and how long
5 it took to prepare it, correct?

6 A I believe so, yes, sir.

7 Q All right. Well, using any parts of
8 Exhibits 190 to 193 that you need to to refresh your
9 recollection --

10 A Okay.

11 Q -- I'd like you to walk us through the moment
12 you learned of this fire until the time the fire was
13 out, working in steps as to what you did, what you
14 were trying to do, and what you learned.

15 A Okay. Page in here between these. Okay. And
16 then can I refer to this, also?

17 Q Yes. That's what I said. Using any --

18 A I'm sorry. I'm sorry.

19 MR. WIDIS: Anything you want.

20 A I'm sorry.

21 MR. WIDIS: If you have another note you want
22 to look at, if it will help give the information.

23 A Okay. So I was originally notified on August
24 the 11th.

25 Q By whom?

1 A I believe that call came from Mr. Widis.

2 Q Okay. I don't want to -- we've agreed we're
3 not going to ask our experts about communications
4 with each other, so I'm not going to ask you about
5 that. But it was Mr. Widis who got you involved in
6 this fire investigation?

7 A Yes.

8 Q Okay. Is it, in fact, true that you were
9 already working for Mr. Widis's firm at that time
10 regarding the E.J. Cox fire investigation?

11 A Yes. Yes. That fire predates this fire.

12 Q Okay. So essentially you were working on the
13 two fire investigations pretty much simultaneously?

14 A There was some overlap, yes.

15 Q Okay. You weren't still on the scene at the
16 E.J. Cox fire as of August 11, 2009, were you?

17 A No.

18 Q Okay. So approximately what time of the day
19 on August 11th did you receive that call from
20 Mr. Widis?

21 A I think it was around the middle of the day.

22 Q Okay. And you learned that you were being
23 engaged to investigate the origin and cause of the
24 fire?

25 A Correct.

1 Q Were you separately engaged by Travelers
2 Insurance Company to assist in any way with the fire
3 suppression, fire extinguishment, or providing advice
4 to Travelers regarding those subjects?

5 A No.

6 Q Your sole engagement was to assist in
7 determining the origin and cause of the peanut dome
8 fire?

9 A Yes.

10 Q Okay. What did you do?

11 A At that point, I think I -- I believe that he
12 told me that I needed to be up there or they'd like
13 for me to be up there on the 13th, which is when
14 other people were going to be there. I believe there
15 were some representatives from Travelers there, the
16 representatives from Severn, the corporate -- the
17 employees -- RP Watson and those people.

18 And there was going to be -- basically there
19 was a meeting on the -- oh, it's a calendar. Okay.
20 There was a meeting on the 13th.

21 MR. WIDIS: Steve, this is the calendar of
22 August.

23 MR. EPSTEIN: Okay.

24 A And that was -- that was basically -- I think
25 I left here early that morning to be in Severn

1 midday. I think that means it was scheduled for
2 around 10:00 on the 13th.

3 Q Okay. So you had a day and a half or so
4 before -- between the time Mr. Widis contacted you
5 and the time that you got to the scene?

6 A Yes, I believe that's correct. I think there
7 was a day in between there.

8 Q Okay. In your mind, did you plan out how you
9 were going to investigate the origin and cause of
10 this fire during that time?

11 A Yes, I gave it some thought.

12 Q And what in your mind did you plan out in
13 terms of how you would go about determining the
14 origin and cause of the fire?

15 A I don't know that I really planned it out, but
16 I was thinking about the structure, what was going
17 on, who was there, who was going to be there, what
18 conditions were at the time, that sort of
19 information.

20 Q Did you think about how you could use the
21 contents from the dome or the exterior of the dome or
22 what was above the dome to in some way document
23 conditions that would help determine the origin and
24 cause of the fire?

25 A I don't know if I thought about it then, but

1 I'm sure I thought about that later, you know, once I
2 got there and saw the configuration and the setup,
3 saw how the building was built.

4 Q Did you have an understanding before you even
5 got there that there was temperature monitoring
6 equipment embedded in that dome?

7 A I don't think I knew that until I got there.

8 Q All right. I mean, ideally, if you had the
9 luxury of time, the luxury of autonomy, and no
10 expense issues, how would you have gone about trying
11 to figure out what caused this fire?

12 MR. WIDIS: Object to form. You can answer.

13 A I don't know that there was -- I mean, I'm
14 not sure -- I don't -- I don't understand -- I don't
15 think I would -- would I have done something
16 different without any sort of limit or time or -- I
17 don't think so, no.

18 Q Okay.

19 A I mean, without being able to go inside the
20 dome -- which -- if that's your limit, I mean, I
21 don't -- superhuman, I can't do, but --

22 Q So if you could have, getting inside the dome
23 would have given you a greater ability to detect what
24 caused the fire than would be the case without being
25 able to get inside the dome?

1 A I would say yes.

2 Q Okay. And what is it that prevented you from
3 going inside the dome?

4 A The construction of the dome, the access to
5 the dome, the fire inside the dome. The conditions,
6 I guess would be the way you'd say that.

7 Q Short of getting inside of the dome, what
8 would have been the best way to get closest to
9 getting inside the dome?

10 A Some sort of remote monitoring, perhaps, or
11 some sort of remote sensing.

12 Q Okay. And did you, in fact, design anything
13 within the first day or two that you were there to be
14 able to accomplish that?

15 A I tried to get some video from inside by using
16 a portable battery-operated video camera, and that
17 was unsuccessful.

18 Q And why was that unsuccessful?

19 A I think it was a combination of the equipment
20 and the conditions that -- it just -- the heat just
21 affected the -- it's not -- it certainly wasn't a
22 camera designed for that. It was something that I
23 was just going to try to see if it would work, and I
24 think the conditions were just too bad for the
25 camera.

1 Q Would it be accurate to say that prior to
2 August 27th, 2009, there is no picture in existence
3 of what was going on inside of that dome? Correct or
4 incorrect?

5 A I think that would be correct, yes.

6 Q So we can't look at a picture and say, well,
7 that's the spot where the fire was burning at any
8 time prior to August 27th, correct?

9 A Oh, in -- on August 27th, are you referring
10 to the thermal imaging?

11 Q I am. And I'm trying to get us to a period of
12 time before then.

13 A Okay. Yes, that would be correct. I don't
14 know of any photographs prior to that time.

15 Q Okay.

16 A Or usable -- you know, anything that's there
17 that you can see.

18 Q And as a fire investigator, it would have been
19 ideal for you to have access to such photographs
20 taken as soon after the fire was discovered as
21 possible, correct?

22 A That would have been ideal, yes.

23 Q And you just don't have that to work with in
24 this matter, do you?

25 A I do not.

1 Q All right. Were you asked to do anything
2 specifically other than investigate the origin and
3 cause of the fire?

4 A No.

5 Q Were you left to your own devices to figure
6 out the best way to investigate the origin and cause
7 of the fire?

8 A I guess so. I mean, I'm not sure what you
9 mean left to my own devices. I mean, there were
10 other -- there were -- you know, Mr. Widis was there.
11 There were representatives from Travelers there,
12 representatives from the fire suppression company
13 there.

14 But I guess, yes, because there -- I would say
15 yes.

16 Q You were provided whatever access to the dome,
17 to Severn Peanut Company's people, to materials that
18 you needed, correct?

19 A Yes.

20 Q Were you reporting to Mr. Widis? To
21 Travelers? To RP Watson? Who were you reporting to?

22 A I would say -- well, I'd have to say both, I
23 guess because --

24 Q Both of --

25 A Mr. Widis and Travelers, because there were

1 occasional -- I mean, there were calls, conference
2 calls, with Mr. Widis and Travelers. And so I would
3 say -- I would say both.

4 Q And who specifically from Travelers were you
5 interfacing with?

6 A Let's see. Walter Nader was there, Jonathan
7 Byers was there for -- on and off, and I believe
8 there's another -- you have the list, the sign-in
9 sheet from that first meeting. There may have been
10 another Travelers employee or designee on there, but
11 I'm not sure. I don't remember their name.

12 Q Okay. Was there another fire investigator
13 that Travelers retained in addition to yourself?

14 A Yes. I'm sorry. You're right.

15 Q Who was that?

16 A Mark Beavers.

17 Q From Rimkus?

18 A From Rimkus, yes.

19 Q Did you work side by side with him, or did you
20 work independent of him?

21 A I would say side by side.

22 Q Did you know why there were two fire
23 investigators retained for the purpose of determining
24 the origin and cause of the fire?

25 A Not exactly, but that's not -- I've run into

1 that before with different companies, so -- and
2 frankly, I don't know the answer, but it just seems
3 to be dependent on the company.

4 Q Did you understand from the time that you got
5 there that there was going to be an issue of whether
6 Travelers would be able to subrogate this loss?

7 A I don't know what you mean by an issue. I
8 mean, that's a consideration, you know, as the
9 investigation goes on. But I don't think it's a --
10 you don't know that until you get further into the
11 investigation.

12 Q Let me put it a different way. Did you
13 understand that Travelers was the property insurance
14 company that was going to be paying for all of the
15 damages to Severn Peanut Company?

16 A Yes, that's my understanding.

17 Q And based upon your experience, did you have
18 an understanding that, for a large loss, Travelers
19 would be trying at least to recover that money from
20 somebody else?

21 A Yes.

22 Q Okay. And so you understood that there might
23 come a day where you'd be sitting in a room in
24 Mount Pleasant, South Carolina, testifying in
25 response to questions by that somebody else's lawyer,

1 correct?

2 A Yes.

3 Q You knew that from the first day you got
4 there, correct?

5 A I mean, that's kind of standard procedure,
6 yes. I don't know that I would say that I actually
7 knew that, but that happens.

8 Q Okay. What was the condition of the dome and
9 peanuts at the time you arrived -- I think you said
10 about 10 o'clock on the morning of the 13th?

11 A Yes.

12 Q What was the condition of the dome and the
13 peanuts at that time?

14 A I don't know at that time, because I didn't go
15 to the -- I didn't, so to speak, put eyes on the dome
16 until later that day, because it's my recollection I
17 got there about the same time the meeting was to
18 occur, around 10:00, and there was lots of
19 introductions and sign-in and trying to figure out
20 who was there.

21 So I really don't believe that I went out and
22 looked at the dome until that meeting broke up
23 sometime midday.

24 Q Okay. So let me ask it this way. When you
25 first looked at the dome, as you understood it, what

1 was the condition of the dome and the peanuts?

2 A It was on fire.

3 Q Was there any doubt in your mind that a fire
4 was in progress within the dome as of that time?

5 A No. Not in my mind, no.

6 Q Did you understand that Travelers did not
7 consider the dome and the peanuts to be on fire as of
8 that time?

9 A I have since read that, yes, and I think there
10 was -- that was maybe talked about in the meeting
11 that everyone signed into that they may not have
12 fully thought that the dome was on fire.

13 Q Based upon --

14 A But I don't -- but that's -- I'm sorry. That
15 would be their thoughts or my recollections of the
16 conversation.

17 Q Based upon your education, training, and
18 experience, you had no doubt that it, in fact, was on
19 fire?

20 A I would say yes, I thought the dome was on
21 fire.

22 Q And what was your basis for saying that?

23 A My observations.

24 Q What in particular?

25 A Well, at that time, there was smoke visible

1 from the top house. I believe at that time the
2 previously installed thermocouple system had been
3 read and was generating some temperature data. And
4 then the -- talking to the Severn employees about
5 what the conditions are, what it looks like, how long
6 has it been smoking, what's going on with the -- what
7 have you been seeing coming out of that house.

8 Those would be kind of the things that I used
9 to make that assessment.

10 Q When you went out to the dome that afternoon,
11 in addition to your sight, did you observe anything
12 by smell?

13 A I don't recall any smells that -- then, but I
14 mean, it's -- there's a vertical difference between
15 where -- I didn't go up on the top. So I don't
16 recall any smell at that time.

17 Q At ground level?

18 A Right.

19 Q Okay.

20 A I mean, that's an outside -- you know, there's
21 no confinement there, so it would be -- if you got a
22 whiff of something, you might. But I don't recall
23 smell permeating the area.

24 Q In your view, who was the ultimate
25 decision-maker at the fire scene regarding how to

1 suppress the fire?

2 A In my view, it was -- it was a combination --
3 it was Williams Fire Suppression, and then they were
4 working in concert with RP or the Severn -- the
5 company, Severn. And I guess I'd have to throw Bill
6 Cottam in there, also, because he was -- he was sent
7 there by IFC, is my understanding, to sort of manage
8 the scene. So I would put him in that group.

9 Q Did you in any way assist in the direction,
10 the efforts to suppress the fire, too?

11 A No.

12 Q Were you supportive of the methods employed to
13 suppress the fire?

14 A I don't really have an opinion on that. I
15 mean, they did what they thought they could do. I
16 know there were other suggestions offered, but I
17 don't really have an opinion one way or the other.

18 Q You don't have any opinion on whether there
19 were better ways to suppress the fire that were not
20 employed?

21 A I knew there were other -- right. There were
22 other ideas offered, but for whatever reason -- they
23 could have been better, but maybe they weren't
24 practical or they couldn't have been implemented. I
25 don't know.

1 Q You were in Houston, Texas when I deposed
2 Chauncey Mueller, correct?

3 A Yes.

4 Q And you heard his views on that subject,
5 correct?

6 A Right.

7 Q His views were that the peanuts should have
8 been moved out of the dome as quickly as possible.
9 You heard him say that, right?

10 A I recall that. And I think he also talked
11 about a different approach to the application of the
12 CO2, I believe.

13 Q You don't have an opinion as to whether the
14 peanuts should have come out of that dome more
15 quickly than they did?

16 A No, sir.

17 Q Okay. Mr. Rich, was there any inconsistency
18 with what you needed for purposes of your
19 investigation as to the origin and cause and what was
20 in the best interest of the fire suppression?

21 A I would say no because, you know, as a general
22 rule, the fire suppression comes before the
23 investigation, just as a natural course of business.
24 The only concern that I would have had as the
25 investigator was -- and I think Chauncey might have

1 even expressed this in deposition, too -- the dumping
2 of the dry ice onto the top of the pile may have some
3 way altered any preexisting Fumitoxin or evidence or
4 anything else, frankly, that might have been there,
5 because that was quite a bit of weight.

6 Q How many pounds of dry ice went in starting on
7 August 15th?

8 A I don't remember the exact number, but I
9 believe it was over 100,000 pounds.

10 Q And it is, in fact, true that dumping over
11 100,000 pounds of dry ice onto the top of the peanut
12 pile disturbed the evidence on the top of the peanut
13 pile, correct?

14 A I would agree with that, yes.

15 Q So it would be hard to draw a scientifically
16 valid conclusion about what was on the top of the
17 peanut pile subsequent to the unloading of over
18 100,000 pounds of dry ice on it, correct?

19 MR. WIDIS: Object to form.

20 A I don't know that it would be -- what was the
21 word that you used -- unreasonable or --

22 Q Scientifically valid.

23 A Valid. I think that would have to be
24 determined based on what you got. I mean, in this
25 particular case, after the application, we were able

1 to pull a sample using the dredge. But I would say
2 yes, it altered -- for example, there's the testimony
3 that a flask was dropped in there. Well, if you dump
4 100,000 pounds of dry ice on it, that's probably
5 going to change and move or squish or flatten the
6 flask.

7 But yes, to answer your question, it would
8 have changed it, but I don't know that it changed it
9 in such a fashion that you can -- you couldn't do
10 anything.

11 Q Okay. And in fact, the purpose of dumping the
12 dry ice onto the peanut pile was to affect the
13 temperatures within the peanut pile, correct?

14 A I don't know if it was necessarily to affect
15 the temperatures in the peanut pile. It was my
16 understanding it was done to extinguish the fire, and
17 it may or may not have affected the temperature.

18 Q Is there not a relationship between fire and
19 temperature?

20 A There is, but that's a class A ordinary
21 combustible material, the peanut farmer stock that's
22 burning. And to extinguish that fire -- you've got a
23 fire triangle, air, heat, and fuel. You have to
24 remove one side of that. While the dry ice does
25 displace air inside -- carbon dioxide displaces the

1 oxygen, it may not fully extinguish the fire because
2 you haven't dissipated the heat from the class A
3 material.

4 Q But it can also cause that heat to move within
5 the mass of 21 million pounds of peanuts, correct?

6 A The ice on top?

7 Q Yes.

8 A Yes, certainly it would affect or certainly it
9 would and could affect the thermal balance, I guess
10 would be the right word, inside the dome.

11 Q So just to make sure we're clear on this,
12 you -- I think we started this line of answers
13 related to my question about whether there was an
14 inconsistency between what you needed to do to
15 investigate the fire and what needed to be done to
16 suppress the fire, and you mentioned dry ice was to
17 some degree inconsistent with what you were trying to
18 do to investigate the fire, correct?

19 A I would say -- I don't know if inconsistent is
20 the right word. I would say it would complicate it
21 or it would affect -- let's say it would affect it.

22 Q And that means that there are pictures that if
23 you took subsequent to them that possibly were
24 affected by the dry ice, correct?

25 A Yes. I don't know the answer to that

1 question. It could be. It could not be.

2 Q And temperatures that were read from various
3 sensors following the dumping of the dry ice could
4 potentially be affected by the fact that dry ice was
5 dumped, correct?

6 A Yes.

7 Q Okay.

8 THE VIDEOGRAPHER: Counsel, I need to go off
9 the record, change tapes.

10 MR. EPSTEIN: Let's take a break.

11 THE VIDEOGRAPHER: This is the end of tape
12 number 1. Time now is 10:25 a.m. We're off the
13 record.

14 (A recess was taken.)

15 THE VIDEOGRAPHER: This is going to be the
16 beginning of tape number 2. The time now is
17 10:34 a.m. We're back on the record.

18 Q Mr. Rich, I'd like to walk through Exhibit 193
19 with you, not the entire exhibit, but I'm going to
20 pick out pages. So if you can kind of put that back
21 together again.

22 A Okay.

23 Q And we will get to the beginning of your
24 investigation, but we're going to start before then.

25 A This one goes this way. Okay.

1 Q And so we have numbers in the bottom
2 right-hand corner. I'm going to start referring you
3 to different page numbers starting with 12.

4 Your timeline on that page begins at
5 February 9th, 2009 and takes --

6 A Hold on a second. I put it together upside
7 down. I'm sorry. Okay. Page 12.

8 Q Yeah. Your timeline there begins
9 February 9th, 2009 and gets us to August of 2009,
10 correct?

11 A Yes, sir.

12 Q And you have commodity temperatures where you
13 say dome temp intra-commodity, and then you've got
14 various temperatures. 52.74 on March 11th, 67.65
15 on June 9th, 79.51 on July 13th, correct?

16 A Yes.

17 Q And if I understand those numbers, what you
18 did was you took the average of all temperature
19 sensors as displayed on spreadsheets that were
20 provided to you and came up with one average number,
21 correct?

22 A Yes, sir, I believe that is correct.

23 Q In other words, nobody took a singular
24 temperature on March 11th, 2009 and got a
25 temperature of 52.74 somewhere intra-commodity?

1 A Right.

2 Q Okay. When were those temperatures first
3 provided to you, the temperatures from the
4 temperature monitoring system designed by Safe-Grain?

5 A I don't think it was the first day that I was
6 there, but it was -- it was sometime in that first
7 three or four days, I would say --

8 Q You had --

9 A -- that I -- I'm sorry -- that I saw them.
10 But I don't think I actually got copies of them until
11 later.

12 Q Correct me if I'm wrong. You had access
13 within the first few days you were on the scene to
14 the prefire temperatures recorded in the dome?

15 A I don't think I had this history all the way
16 back. I think there were -- I believe the records
17 that I had access to started like on the 11th.

18 Q Of August?

19 A Right, which would have been the day they saw
20 the smoke. I don't think I had access to these
21 records at that time.

22 Q That's what I'm specifically asking you about.
23 On page 12 --

24 A Right.

25 Q -- the temperatures that you're indicating

1 there, when did you first have access to those
2 records?

3 A I don't remember exactly, but I would say it
4 was -- these were -- these were provided later, and
5 so probably after the first -- maybe even after the
6 explosion. I'm not sure. I don't think I had access
7 to these until later.

8 Q Were you still at the scene when you were
9 provided access to these, or is it after you had
10 already done all of your work at the scene?

11 A I believe it was after I had left the scene.

12 Q And when did you leave the scene?

13 A September 1st, the second time. I was there
14 twice. These -- some of these may have started --
15 because -- my recollection is -- and it could be
16 incorrect, but my recollection was that these
17 temperatures were maintained -- or they were
18 maintained by Severn. And there was some issue with
19 the computer they were on or they had to be reentered
20 or they couldn't find the spreadsheets or they had
21 switched computers.

22 I'm not -- I know I'm not under oath, and I'm
23 not 100 percent certain of that, but that's my
24 recollection. There was some issue with just handing
25 them to me.

1 Q Okay. Correct me if I'm wrong, but to the
2 extent that you were at the scene in August and early
3 September of 2009, you were forming impressions about
4 the origin and cause of the fire that were in no way
5 informed by the preexisting temperatures monitored by
6 Severn Peanut Company?

7 A I wouldn't say I was forming impressions. I
8 would say I was collecting information, and I didn't
9 have -- you're correct, I didn't have this
10 information right then.

11 Q You knew nothing about the temperature history
12 within that dome prior to August 11th while you
13 were at the scene?

14 A Wait. Say that again. I knew nothing about
15 it prior to August --

16 Q You knew nothing about the temperature history
17 as it existed prior to August 11th, 2009 while you,
18 Mr. Rich, were at the scene, correct?

19 A I don't think that's completely accurate,
20 because I think RP Watson had talked to me about
21 there were records, there were -- and that whole
22 issue of we can't get them, we might be able to get
23 them, I think that happened towards the end of the
24 first -- the first time I was at the scene.

25 Q Let me try it this way. While you were at the

1 scene --

2 A Right.

3 Q -- up until the very beginning of
4 September 2009, you were unaware of the actual
5 temperatures that had been recorded in that dome
6 prior to August 11th, 2009, correct?

7 A Yes, I believe that's correct.

8 Q All right. If you would move forward to
9 page 16 --

10 A Okay.

11 Q There's an entry for August the 7th, 2009 that
12 Employee Mike Lassiter may smell odor. Where did you
13 get that information from?

14 A That information came from an interview
15 that -- or from talking. I believe it was either
16 from Jonathan Byers or Mark Beavers, the other two
17 investigators there -- had talked to him, and he
18 reported smelling an odor, but he can't -- he
19 couldn't characterize it. He couldn't say what it
20 was.

21 Q Okay. Mr. Rich, I've asked, through Mr.
22 Widis, for you to supply me with every field note,
23 every note of any kind, that you've made about this
24 matter, and there is nothing whatsoever that I've
25 been provided related to a Mr. Mike Lassiter. Is

1 there something that you have that hasn't been
2 provided?

3 A I don't think I have that. I don't think I
4 made any -- I didn't make notes about that because I
5 didn't talk to him in person. That was -- that was
6 information that was relayed to me.

7 Q You don't have first-hand knowledge as to
8 whether that entry is correct or incorrect, do you?

9 A What -- no, I don't have a convers- -- I
10 didn't have a conversation with Mr. Lassiter. I'm
11 sorry.

12 Q Okay. And did you know that Mr. Beavers is
13 not involved in this case?

14 A I don't know. I mean, I haven't talked to him
15 about the case in a while, so I don't know if he's
16 still involved at all or not.

17 Q Did you know he's not been designated as an
18 expert witness in the case?

19 A No, I don't think -- no, I did not know that.

20 Q Okay. Who else did you mention that
21 Mr. Lassiter supposedly talked to about smelling an
22 odor?

23 A The -- the Travelers fire investigator,
24 John Byer- -- the employee of Travelers, the fire
25 investigator.

1 Q All right. If Mr. Watson said that the first
2 evidence that Severn Peanut Company had of a fire was
3 on August 10th or August 11th, 2009, would you
4 have any reason to dispute that?

5 A No.

6 Q All right. August 11th at 4:00, smoke
7 visible from dome, top house. You also heard that
8 referred to as the head house, correct?

9 A Yes.

10 Q That was the first manifestation of a fire in
11 the dome, as far as you know, correct?

12 A Well, I don't know if I would agree with that
13 because the smell is -- that smell has been
14 persistent all day according to them, and so --

15 Q Let me ask it a different way. That was the
16 first visible manifestation of the existence of a
17 fire, correct?

18 A Yes. That's my understanding. Yes, sir.

19 Q And the prior day, there was a manifestation
20 related to smell, correct?

21 A On the 10th. I'm sorry. Yes, on the 10th.
22 Yes, sir.

23 Q Okay. So we know that in all likelihood,
24 there was a fire on or about the 10th of August,
25 2009, correct?

1 A Yes. And possibly as early as the 7th, but
2 again, there's no -- that can't be -- I mean, it's a
3 smoke smell is what he reports, but there's also --
4 they can't -- he couldn't differentiate -- this is
5 what I told -- he couldn't differentiate between
6 somebody burning leaves or a smell of burning peanuts
7 or a smell of anything that was burning.

8 It's a -- it's a fact that's there, but it may
9 not have any relevance because we can't associate it
10 to a particular -- this particular fire, I guess
11 would be the way to say that.

12 Q And as a fact, it is not one upon which you
13 relied in your determination as to the origin and
14 cause of this fire, correct?

15 A Yes, sir.

16 Q Okay. Go, if you would, to page 72. Page 72
17 at the bottom left, it says that at 1:00 p.m. on
18 August 15th, 2009, there was an application of
19 1,000 pounds of dry ice to test the conveyor system,
20 correct?

21 A Yes, sir.

22 Q And so as of that time, the conditions inside
23 the dome had changed from what they were at the time
24 the fire commenced, correct?

25 A What do you mean by the conditions? The --

1 Q Let me ask a different way. As of that
2 time -- this goes back to a conversation you and I
3 have already had -- the immediate post fire condition
4 of the peanut pile had been disturbed to some degree,
5 correct?

6 MR. WIDIS: Object to form.

7 A I would agree, yes, because the -- I mean, it
8 was run through the conveyor system and put in on the
9 top.

10 Q And if you go forward to page 74 --

11 A 74. I'm sorry. Okay.

12 Q That, in fact, depicts what you've just
13 described, correct?

14 A Yes.

15 Q Okay. And that was just the first
16 1,000 pounds. There were then, as you testified
17 earlier, approximately 100,000 more pounds that were
18 put in?

19 A That's correct. And there was a concern that
20 the crane -- the system, this system that delivered
21 the peanuts to the top of the dome, might not
22 effectively deliver the dry ice to the top of the
23 dome because of -- it's so cold it would affect the
24 belt or whatever.

25 So that's why there was a test and then the

1 actual application.

2 Q If you go forward to page 79.

3 A Okay.

4 Q On August 16th at 12:00 p.m., 100,000 pounds
5 of dry ice were inserted into the dome, correct?

6 A That was over -- yeah, over a time period. I
7 mean, it took a while, but yes.

8 Q All right. And on August 17th up at the
9 top, an additional 60,000 pounds of dry ice were
10 added, correct?

11 A Yes, sir.

12 Q So that's 161,000 pounds of dry ice that went
13 in between August 15th and August 16th, correct?

14 A Yes. And I should probably revise my
15 estimation of 100 to 161.

16 Q Okay. And we don't disagree that that had an
17 effect on what was going on inside of the dome that
18 in some way would affect what significance anything
19 discovered after that date had? Agree or disagree?

20 A I think I agree that it would affect it, but
21 I -- and this may not be what you said, but I don't
22 agree that it then makes it completely irrelevant.
23 But I agree that, yes, a movement or a change or a
24 disruption would affect what's there.

25 Q All right. And then on August 17th, the

1 dome was sealed by Williams, correct?

2 A Yes.

3 Q And just to make sure I'm clear on this, was
4 the dome sealed at the time that you got there on
5 August 13th?

6 A Yes, sir.

7 Q As far as you know, was the poly sheathing
8 that sealed the dome compromised in any way by the
9 existence of the fire within the dome?

10 A No. As far as I know, no.

11 Q How were those wisps of smoke that were coming
12 out of the head house on August the -- August the
13 11th, how were they getting out through the ceiling
14 of the dome that was done as part of the fumigation?

15 A They were getting out through the gap that
16 would have remained after the IFC employees
17 reinstalled the hatch that they used, because it's my
18 understanding that previously those hatches would
19 have had like a caulk or a seal when Severn placed
20 them down, but when they removed them for -- to apply
21 the -- to apply the Fumitoxin, they put it back down
22 and just bolted it back down. That's my
23 understanding.

24 Q Your understanding -- there was no
25 polyethylene that was placed over those hatches?

1 A Over that hatch, yes. Yes.

2 Q That is your understanding?

3 A Yes, sir.

4 Q And that's where you think the smoke was
5 coming from?

6 A That's correct.

7 Q Okay. On August 17th, it says, insert
8 3-point thermocouple array. Tell me specifically who
9 did that and what was done.

10 A I did that. And I put it in to see if I could
11 get any temperature readings from what -- as it --
12 there was a discussion about how far it was from the
13 dome to the peanuts, and there wasn't a real good
14 estimation of that at that time, so I created this
15 array. I believe this was 45 feet. So I actually
16 got the array down on the pile of peanuts, and it was
17 simply an effort by me to see if I could characterize
18 what was going on inside the dome through some
19 temperature measurements.

20 Q First of all, did you determine with that
21 3-point array what the distance was from the ceiling
22 of the dome to the surface of the pile?

23 A No, not with that. No, sir.

24 Q And in fact, the application of 161,000 pounds
25 of dry ice would have affected that number, too,

1 wouldn't it have?

2 A Oh, it would have affected the distance.

3 Q Yes.

4 A Yes, sir. Probably so.

5 Q Okay. Were you successful in getting
6 temperature readings from that 3-point thermocouple
7 array?

8 A Yes.

9 Q Were they meaningful temperature readings, as
10 far as you understood them?

11 A At that point, it's just -- it's data. I
12 mean, it might -- nothing said this has meaning right
13 this second, but it's being collected, and it may
14 have meaning later on.

15 Q Did the data collected from that 3-point
16 thermocouple array assist you in any way in
17 determining the origin and cause of the fire?

18 A I would say that I considered that data. I
19 don't know that that data is a key factor in the
20 determination. But it's certainly data, as the other
21 temperature data that came out of there that I would
22 have considered, yes.

23 Q Let me ask it this way. Did you learn
24 anything from the data produced by the 3-point
25 thermocouple array installed on August 17th, 2009

1 that was materially different from other information
2 that you had available to you?

3 A No.

4 Q Okay. Go forward, if you would, to page 87.

5 And I will tell you that there are several --

6 A Eighty --

7 Q 87.

8 A 87.

9 Q There are several of these charts interspersed
10 throughout Exhibit 193. First of all, I want to find
11 out what this is a chart of. Is this from the
12 temperatures being recorded by that array we just
13 discussed?

14 A These -- let's see. This is six. No, this
15 would -- these temperatures are being recorded by a
16 second six-channel array that was -- that I placed in
17 through a PVC pipe port on the side -- off to the
18 side of the dome.

19 Q So this was not toward the center of the dome.
20 This was off to the side?

21 A Yes, sir.

22 Q How did you get the pipe in through the side
23 of the dome?

24 A No. The pipe was there.

25 Q Okay.

1 A In other words, in the -- in the top of this
2 top house, in each of the corners, almost as far in
3 the corner as you could get with the metal building,
4 confines of the metal building -- and it probably was
5 for originally electrical chase or something.

6 But there were preexisting 4-inch PVC
7 pass-throughs that were capped on top so you could
8 lift the cap off and put the array down.

9 Q And you did that in one location with six
10 different arrays or in six different locations?

11 A No, sir. In one location with six points.

12 Q Okay. And let me ask you the same question
13 that I just asked you about the array that you
14 placed -- the 3-point array that you placed in. Did
15 you learn anything from this six-channel temperature
16 device that was materially different than all of the
17 other information that you obtained in the case?

18 A I would -- it's not materially different, but
19 I did learn that there were temperatures higher than
20 were being recorded by the Severn system.

21 Q Okay. And let's talk about that for a moment.
22 The Severn system, as you know, the one designed
23 Safe-Grain, could not record temperatures any higher
24 than 230 degrees. You knew that, correct?

25 A That's my understanding, yes.

1 Q So you knew that to the extent there were
2 hotter temperatures in there, that system wasn't
3 going to tell you about it, right?

4 A Right, or it would max out. I mean, right.
5 There could be hotter temperatures in there. It's
6 just -- it's maxed out.

7 Q Correct. So for instance, looking at page 87,
8 you know that there were temperatures that got as
9 high as about 300 degrees based upon the array that
10 you placed in through the PVC pipe?

11 A You're looking at like channel number 4?

12 Q Yes.

13 A Yes, sir.

14 Q Okay. But because there was a fire going on
15 inside of that dome, you already knew that there were
16 temperatures hotter than 230 degrees inside of the
17 dome, correct?

18 A I expected that, yes.

19 Q It couldn't be true that there was a fire and
20 there weren't temperatures hotter than 230 degrees,
21 correct?

22 A That is correct.

23 Q All right. Go forward to page 89. Can you
24 tell me what that is. It goes on to page 90.

25 A Yes, sir. These are -- this is temperature

1 data that was recorded -- excuse me -- by either Mark
2 Beavers -- and P Rowe is Pat Rowe, which is an
3 employee of Severn. And it's the two arrays -- well,
4 actually, the third -- the first one we talked about,
5 the three --

6 Q Yes.

7 A -- was pulled out or discontinued once these
8 two were put in. And they were put in, I believe --
9 they were put in at two different times, but it may
10 have been like early on the day and late on the day.

11 And so the first one -- the head space, as
12 it's called here, those are simply temperature
13 readings from those -- from that thermocouple array.

14 And the -- down into well pipe, at some
15 point -- and I think it's in here on the timeline,
16 but at some point -- I believe it was around the
17 17th, in the evening of the 17th -- in an effort
18 to better assess what's going on inside the dome,
19 Williams drove a well point, I guess would be the
20 best way to describe that, basically a black iron
21 pipe with a point on it. And it was something that
22 they used for suppression of their fires and -- it
23 was some piece of equipment that they use for other
24 types of fires.

25 But anyway, they drove it down into the pile,

1 and then we placed an array inside the pipe basically
2 hanging to see if we could get lower in the pile.

3 Q And how low did these particular thermocouples
4 get in the pile that we're looking at on pages 89 and
5 90?

6 A The -- we're talking about down the well pipe,
7 that side?

8 Q Yes.

9 A Because the others were surface, obviously.
10 These -- I believe -- I'll have to do the math
11 here. I believe that Williams drove 40 feet of pipe,
12 because they were carrying up in sections, and I
13 think they drove 40 feet. So if you back out the 20
14 of void space, I'm guessing that you're probably
15 about 20 feet into the pile because that 40 at the
16 top was the total length of the thermocouple.

17 Q Gotcha.

18 A And so if it went down the pipe -- and of
19 course there's, you know, a little bit out of the top
20 to hook to the recording data or whatever, but -- I'm
21 not 100 percent sure, but I believe Williams drove
22 four sections of pipe.

23 Q Okay. Let me ask you this question. What do
24 temperatures that were taken from August 18th to
25 August 27th tell us about a fire that began over a

1 week before then?

2 A Well, in this case, they would suggest to me,
3 looking at the data, that the fire is continuing to
4 burn.

5 Q Of course you know that by the smoke that
6 continues to come out, correct?

7 A Right. Well, yeah. After it's sealed. I
8 mean, no smoke came out then, but --

9 Q I asked that in a bad way. Let me ask it this
10 way. What do temperatures of the sort that we see in
11 Exhibit 80 -- we see in Exhibit 193 on pages 89 and
12 90 -- what do those temperatures tell us about the
13 origin and cause of a fire that started over a week
14 before?

15 A They probably are not that helpful to the
16 origin and cause because at this point, as you said,
17 if the fire's been burning a week, I would expect the
18 conditions to be -- the thermal balance to be
19 occurring within the dome where we're starting to
20 get -- now there's enough time elapsed that it's --
21 the conditions in the dome are starting to -- I want
22 to say homogenize, but I don't think -- that's not
23 exactly the right word, but they're equalized through
24 the dome. The temperatures would start to spread
25 out. In other words, the pile has been being heated,

1 the top is being heated, the concrete is being
2 heated. An equilibrium, I guess is the word actually
3 I was trying to look for.

4 Q Equilibrate?

5 A Yes. We're trying to get there.

6 Q Okay. Go, if you would, to page 104, and 104
7 and 105 as a pair. 104 is a -- some photographs.
8 105 is some photographs.

9 A Yes, sir.

10 Q Those photographs were taken on August 27th,
11 2009 when peanuts were off-loaded from some of the
12 chutes, correct?

13 A Is that -- that's an 8. Yes, sir. I was
14 trying to read the date on the bag. Yes, sir, that's
15 correct. It was August 27th.

16 Q And did you take these photographs or did
17 somebody else take them?

18 A I took these photographs.

19 Q All right. So you were right there when the
20 peanuts were coming out of the chutes, correct?

21 A That is correct.

22 Q What did you detect to be the condition of the
23 peanuts that were coming out of the chutes?

24 A The only thing I detected was just a -- an
25 odor. I would say a rancid odor. I really can't --

1 it doesn't smell like anything. It just smelled bad.
2 And then just -- as the photo shows, I mean,
3 obviously I saw that some of the nuts were
4 discolored. Some of them were -- you know, as you
5 can see in the photo, some of them were brown and
6 that sort of discoloration.

7 But really my only observation there would
8 have just been the smell.

9 Q Were they wet or dry to the touch? Do you
10 remember?

11 A Yes, sir, they were dry to the touch.

12 Q You didn't detect any wet peanuts that came
13 out of the chutes?

14 A No, not to my -- no, sir.

15 Q And you know that Williams Fire had actually
16 begun to spray water on the top of the pile the day
17 before, right?

18 A On the --

19 Q 26th.

20 A Twenty -- yes, sir. That's -- yes, that's
21 correct.

22 Q And as someone who is both a fire investigator
23 and a firefighter, would you be able to conclude from
24 what you saw in these peanuts that that water did
25 not, in fact, penetrate the peanuts that were coming

1 out of the chutes?

2 A I would agree with that, yes.

3 Q Okay. And you would also agree, would you
4 not, that the peanuts that came out of the chutes
5 were peanuts that before coming out of the chutes had
6 been directly above where those chutes were?

7 A I think so. I don't -- I mean, the chute goes
8 into the wall, and there's peanuts above. So yeah,
9 they would -- yeah, they came from up there
10 somewhere, but I don't know exactly where. In other
11 words, I couldn't -- I can't -- I couldn't estimate a
12 distance in the pile or were they peanuts off the
13 very top or were they down a little bit lower. If
14 that's what you meant. I'm sorry.

15 Q I'm trying to talk laterally.

16 A Okay.

17 Q The peanuts that were coming out of the chutes
18 were laterally positioned somewhere next to the walls
19 of the dome, correct?

20 A They were, but I believe -- it's my
21 understanding that these chutes protruded into the
22 dome by a certain amount. Maybe not a lot. Maybe a
23 foot, 14 inches. So they -- I don't think the
24 peanuts are actually sliding down the wall and out
25 the chute. I think the chute is into the mass, and

1 then those are coming down, you know, just filtering
2 through.

3 Q So maybe a foot to a foot and a half into the
4 lateral interior of the dome?

5 A Yes, sir.

6 Q Those -- the peanuts that we're looking at on
7 pages 104 and 105 were not coming from anywhere near
8 the center of the dome, correct?

9 A No, sir, I don't believe they were. No.

10 Q Nor were the peanuts that were pulled out on
11 August 27th have been coming from the very top of
12 the peanut pile. Would you agree with that?

13 A Yes.

14 Q Okay. All right. Go ahead to page 106. And
15 there's a reference to flaming combustion visible
16 from inside dome. I hope you mean from inside of the
17 head house. Correct?

18 A Oh, visible from inside of the head house, but
19 the fire is inside the dome.

20 Q Correct.

21 A Yes.

22 Q Nobody was actually inside of the dome taking
23 a picture?

24 A That's correct, sir.

25 Q But you were, as I understand it, inside of

1 the head house on August 27th, 2009 at 5:45 p.m.
2 using a thermal imaging camera, correct?

3 A Yes, sir.

4 Q All right. And if you would go to page 108 --

5 A Okay.

6 Q -- is that your right hand wearing a gray
7 glove holding a yellow device?

8 A That is not my right hand.

9 Q Is that somebody else's right hand --

10 A Yes.

11 Q -- holding a yellow device?

12 A Yes, sir. I'm making the photograph. And as
13 I discovered, I could not hold the device and make a
14 photograph at the same time. So that is Troy Johnson
15 who's holding the device so that I can attempt to
16 make a photograph of the screen.

17 Q And that's looking through the conveyor hatch;
18 is that correct?

19 A No, sir. That's looking through the hatch
20 which would be adjacent to the hatch that IFC removed
21 to place the Fumitoxin through.

22 Q So what we're looking at is neither the hatch
23 through which the peanuts were loaded into the dome
24 nor the hatch through which the Fumitoxin was placed
25 into the dome?

1 A That's my recollection, that this is to -- and
2 the reason I think that is because you'll notice how
3 this photograph, the -- the hatch is going long ways,
4 in other words, kind of a north to south orientation.
5 And in photo -- the photo beside it, the two
6 hatches -- you see the expanded mesh metal on the
7 floor. The two hatches were long ways on either side
8 of that conveyor assembly, and there was a hatch
9 across the front of that. So it was three that
10 were -- basically their corners were touching kind of
11 in that configuration. I'm sorry.

12 Q What is the device that's yellow?

13 A It's a thermal imaging camera.

14 Q Is it something you purchased within the days
15 preceding August 27th, 2009?

16 A It actually was something that I rented in the
17 preceding days.

18 Q Okay. It only shows images in black and
19 white; is that correct?

20 A Yes, sir.

21 Q Go forward to the next page. Do you have any
22 idea what we're looking at on page 109?

23 A Yes, sir, I believe I do.

24 Q Okay. Tell me what you think we're looking
25 at.

1 A The camera is -- the thermal imager is looking
2 through the same hatch that you just previously saw.
3 These are just close-ups of that photo. There's
4 distortion on the sides. The white area in the
5 center kind of near where that cross area is is
6 combustion. It's a hotter area. The -- I'm not
7 100 percent sure, but the item hanging or the black
8 line --

9 Q Uh-huh.

10 A -- with the thing at the bottom, I believe
11 that is what's remaining of the sampling that the --
12 IFC put in, because their tube went down.

13 Q The Draeger tube?

14 A The Draeger tube, right.

15 And I don't know for certain -- I think they
16 did weight it, but I don't know how they did that or
17 if there was some -- at any rate, that could be it.
18 It's something hanging there, and the view is sort of
19 back slightly towards the center of the dome, kind of
20 as you can see just the angle of the camera is
21 slightly back towards the center. That's what I
22 think that is.

23 Q So do you think that these photographs are of
24 the peak of the peanut pile or somewhere else?

25 A I would think they're close to the peak.

1 Well, it's not really a peak because we understand --
2 I understand that it's been flattened off because the
3 peanuts will settle after they've been stored. But
4 yes, it's more towards -- I think this is more
5 towards the center -- more towards the center of the
6 dome.

7 Q Where 161,000 pounds of dry ice were dumped?

8 A It's going to be pretty close, yes.

9 Q Okay. Tell me, if you could, what the
10 photographs that we see on page 109 and 110 told you
11 about the origin and cause of the Severn peanut dome
12 fire.

13 A Well, it indicates to me that there's -- you
14 know, that there's active fire -- in other words,
15 first off, when you look at this visually, you
16 couldn't -- there was no indication that there was
17 anything happening under the layer -- in other words,
18 the CO2 layer was still there. So when you looked
19 through it with a thermal imager, you see this
20 defined circle of heat, and it's -- to me, it's
21 another -- it's a data point in that, well, that's
22 odd. I have -- and it's a defined ring at this point
23 as you move it around. I mean, you can see almost
24 three-quarters of it in this photo. And it's a
25 differentiation. It's a hotter area.

1 And then the next phase of this was someone
2 down on the ground turned on one of the fans because
3 the idea was to try to move some of the carbon
4 dioxide out to view what this is. But I'm trying to
5 get an early look with the thermal imager through the
6 cloud. Literally just seconds after that fan was
7 initiated and we saw the vapor cloud start to move,
8 the vapor cloud turned red underneath. It lit up,
9 basically. This still looked like it did through the
10 thermal imager except now there's a red glow under
11 what's left -- you know, the CO2 layer.

12 So at that point, Williams said, shut
13 everything down. Shut the fan down. I left the head
14 house at that point.

15 And so that to me says two things. One, I'm
16 seeing here that there's a hot spot or a ring of fire
17 basically there, and then as soon as the air started
18 moving, what probably is glowing combustion in this
19 photo is now flaming combustion once you start to
20 disturb that air -- fuel/air mixture that's
21 already -- you know, it's established. It's got the
22 CO2 in there. That layer is already there.

23 Q I'm trying to draw you back to the time period
24 of August 4th to August 11th, 2009. What do
25 these thermal images have to do with what happened in

1 that time period?

2 A I'm not sure I understand. I mean, they
3 depict -- it's a visual depiction of at least a
4 portion of the fire that's burning inside the dome.

5 Q Correct. But in terms of determining the
6 origin and cause of that fire, you have to understand
7 what was happening between August 4th and
8 August 11th, correct?

9 A Yes.

10 Q What do these thermal images communicate to
11 you about what was happening between August 4th and
12 August the 11th?

13 A Well, they don't communicate anything about
14 what was happening between the 4th and the 11th.
15 To me it's just another piece of information to plug
16 into the whole investigation. And the information
17 that was happening between the 4th and the 11th is
18 important. What's happening here -- and it's
19 simply -- and really it's simply showing that there's
20 a defined fire on the surface of the pile at this
21 point, and then -- and it's glowing combustion, not
22 flaming, until the air -- I'm sorry -- until the CO2
23 level is disturbed and some fresh air is drawn in.

24 And then it immediately transfers to flaming
25 combustion, which is then when the water -- and

1 Williams took all those actions to try to quench
2 that.

3 Q Mr. Rich, is it your testimony in this case
4 that you can make a correlation between what we're
5 looking at on pages 109 and 110 of Exhibit 192 --
6 193 and the application of Fumitoxin on August 4th,
7 2009?

8 A You might be able to.

9 Q I'm asking if you have.

10 A What do you mean by a correlation? I'm not
11 saying that that's a picture of a pile of Fumitoxin
12 burning. I'm saying that there was Fumitoxin
13 applied, and in this particular photo, I do have a
14 fire -- a smoldering fire on the surface of the pile
15 that then transitions to flaming combustion.

16 That's all I'm saying, I guess.

17 Q And that set of facts could have existed
18 independent of there having been a pesticide
19 application, correct? Knowing that there was a fire
20 in the dome that had been burning for at least
21 16 days, that set of facts could have happened just
22 because there was a fire that had been burning for
23 16 days?

24 A Oh, you're saying that what I'm seeing could
25 have been the fire burning for 16 days?

1 Q Correct. You disagree with that?

2 A No. No. I agree with that. I think that is
3 the fire that I'm seeing.

4 Q But it doesn't necessarily have any
5 correlation to the application of Fumitoxin on
6 August 4th, correct?

7 A It might.

8 Q And it might not?

9 A It might not. But it might.

10 Q You have no way of telling -- of saying which
11 is more likely, do you?

12 A Well, if you look at the totality of the
13 circumstances, the investigation, I think it tends to
14 put you one way or the other. But you're right. I
15 agree with you. This is simply a photo of a fire
16 burning on the surface of the pile.

17 Q Okay. Apart from the different things you did
18 at the fire scene related to your investigation to
19 determine the origin and cause of the fire, did you
20 do anything away from the fire scene to assist you in
21 determining origin and cause of the fire?

22 A Yes.

23 Q What?

24 A Well, I reviewed other materials. I looked at
25 the stuff that was collected at the fire scene.

1 There was some evidence collected that was sent to a
2 laboratory. There was some that IFC sent to a
3 laboratory, the -- and that would be as far as the --
4 there's -- I guess once the scene was -- once I left
5 the scene, the rest of the results would have simply
6 been collecting the data, analyzing it, and
7 researching it and putting together the opinion. I
8 don't know as far as the --

9 Q I just want to know if you did any further --

10 A Right. Yeah, I would say --

11 Q -- analysis.

12 A -- that that would be -- right. That stuff
13 would have happened after I left the fire.

14 Q But you just described that stuff in terms of
15 what you did?

16 A Yes.

17 Q Okay. When did you form a conclusion as to
18 what the origin and cause of this fire was?

19 A I would say the day that I prepared the
20 report.

21 Q You didn't in your own mind reach that
22 conclusion prior to the day you prepared the report?

23 A Well, I had an idea, yes, but really until you
24 write it down and you create the report, that's --
25 that's your opinion.

1 Q Your mind vacillated between the ultimate
2 opinion you expressed in that report and something
3 else until you actually wrote the report; is that
4 what you're saying?

5 A No. No. I'm not saying that my mind
6 vacillated. I'm saying that it's -- I think it's my
7 opinion once I create the report.

8 Q Okay. When in your mind did you conclude that
9 the application of Fumitoxin to the dome on
10 August 4th, 2009 is what caused this fire? When
11 did you in your mind make that conclusion?

12 A I don't know. I mean, it would have been
13 prior to preparing the document, but I don't -- I
14 can't give you a date that I said it's Fumitoxin.

15 Q Did you make that conclusion while you were at
16 the scene of the fire?

17 A No. I took that data in from the Fumitoxin --
18 I mean, that's data. It was there, it was applied,
19 how much, photographs, the containers. But I also
20 felt like I needed the other temperature information
21 and the other -- there's still data out there to
22 collect. So I'm not going to make an opinion until I
23 have at least as much of the facts as I think I can
24 get.

25 Q When did you acquire at least as much of the

1 facts that you needed to get to form an opinion in
2 your mind that the Fumitoxin is what caused the fire?

3 A I don't know how to answer that. I mean, it's
4 a -- it's a process. And I would say sometime
5 shortly before this report was prepared.

6 Q And so in 2013 is when you formed that opinion
7 in your mind?

8 A I would say that's when it solidified in my
9 mind, yes, and then when I went to write it out, yes.

10 Q So if somebody had asked you before 2013 what
11 caused this fire, you would have said, I don't know?

12 A I may have said I think it's the Fumitoxin or
13 the Fumitoxin could be a potential fire cause. But I
14 don't know that I would have said it's just the
15 Fumitoxin.

16 Q Okay. When should a fire investigator
17 conclude that the cause of a fire is undetermined?

18 A Well, that's a classification out of 921, and
19 I'm paraphrasing what it says, but it basically is if
20 you can't determine what caused the fire -- I'm
21 sorry. If you can't -- because the classification of
22 undetermined is -- that's a classification of a fire.
23 That's not necessarily the cause of a fire. So you
24 have the classifications listed out in 921 of
25 natural, accidental, incendiary, or undetermined. So

1 to classify the fire, it should fit in one of those
2 four categories.

3 Q Okay. Well, let me ask it this way. Would
4 you agree with me that a fire investigator should
5 conclude that the cause of a fire is undetermined if
6 there are two completely different possible causes
7 neither of which can be scientifically eliminated as
8 a possibility?

9 A Neither can be scientifically eliminated as a
10 possibility.

11 Q In other words, if there are two competing
12 causes, neither of which could be eliminated, is it
13 undetermined?

14 A Are you reading from 921?

15 Q No.

16 A Or -- well, I would prefer, if I can, to look
17 and see what 921 defines as undetermined and stick
18 with that definition.

19 Q That's fine. Do you have a copy available to
20 you?

21 A I do, if we can do that.

22 Q You can.

23 A What you quoted sounds very similar, but I'd
24 just like to see what they say and make sure I say
25 the same thing.

1 MR. WIDIS: Do you have the section?

2 MR. EPSTEIN: No, I don't.

3 THE WITNESS: I think it's -- it's a little
4 bit moved in this book.

5 MR. WIDIS: 19.2.1.4.

6 A 18. That was 19. That's where the sticky
7 note is.

8 Okay. Now I think I remember what your
9 question was, and I would say no, I don't agree to
10 that -- to that question and would use this
11 definition of undetermined as opposed to yours.

12 Q The one in 19.2.1.4?

13 A Yes.

14 Q Well, what do you as a fire investigator do if
15 you have two competing causes of a fire neither of
16 which you can eliminate? How do you get beyond that?

17 A Well, you might not be able to at that
18 particular point, but that doesn't mean that there
19 won't be additional information or other facts
20 discovered down the road.

21 Q Well, have you ever --

22 A So you could leave that fire as under
23 investigation or you could just not classify that
24 fire.

25 Q Has that ever happened in the 1500-plus fires

1 that you've investigated over the years that you
2 concluded that there were two possible causes, and
3 with all the information available, could not decide
4 which was the one that actually was the cause?

5 A I don't know if exactly the way you described
6 it has happened, but yes, I've had competing
7 hypotheses, competing fire causes, where I couldn't
8 determine one way or the other.

9 Q That's my question.

10 A Right. Okay. Then yes.

11 Q In which case you would not express on
12 affirmative opinion as to the cause of the fire,
13 correct?

14 A That's correct. Yes.

15 Q And if that happened in this case, you would
16 have had to have told Mr. Widis, I can't express an
17 opinion as to the cause of this fire because I've got
18 two competing causes, neither of which I can
19 eliminate?

20 A That's correct.

21 Q Okay. And if a fire investigator expressed an
22 opinion as to cause when he could not eliminate other
23 possible causes, would you agree with me that that
24 opinion expressed would lack a scientific foundation?

25 A Not necessarily.

1 Q And why is that?

2 A Because you said that if he expressed an
3 opinion --

4 Q Without being able to eliminate other possible
5 causes.

6 A Without being able to eliminate something
7 else.

8 Q Let me put it this way. I'll withdraw the
9 question.

10 If were two competing causes, A and B, neither
11 of which the fire investigate can eliminate and the
12 fire investigator testifies under oath that A is what
13 caused the fire --

14 A Right.

15 Q -- would you agree with me that that opinion
16 lacks scientific foundation?

17 A Well, his opinion might have a scientific
18 foundation. I mean, he might -- A might -- he might
19 be wrong, A or B, but that doesn't necessarily mean
20 that his opinion or the methodology of which he
21 arrived at that opinion -- arrived at that opinion
22 were necessarily incorrect. I mean, he might have
23 still followed the methodology.

24 Q Would you ever testify -- in that scenario
25 where you had A and B as competing causes, neither of

1 which you could eliminate, would you ever testify
2 that one versus the other was the cause of the fire?

3 A If I didn't think I could eliminate one or the
4 other, no, I would not testify that way.

5 Q In other words, a fire investigator who has a
6 hypothesis about the cause of a fire cannot reach the
7 opinion that turning the hypothesis -- cannot reach
8 an opinion turning that hypothesis into a cause
9 determination unless all other possible causes of the
10 fire can be eliminated, correct?

11 MR. WIDIS: Object to form.

12 Q Did you understand?

13 A I think I understand. I don't know that I
14 completely agree with that, because there may be --
15 there may be facts and circumstances surrounding a
16 fire that are possible but not likely or not probable
17 or not even beyond a reasonable doubt. So to say
18 that an investigator has to -- I think you can still
19 make a fire determination -- a fire cause
20 determination if the evidence that you have and the
21 facts that you have are swayed one way or the other.

22 In other words, there's -- there may still be
23 a possible fire cause, but there's a very probable
24 fire cause or there's a -- let's say there's a
25 witnessed fire cause.

1 So I think that I sort of agree with what
2 you're saying but not completely.

3 Q Okay.

4 A If that's an answer.

5 Q The fire investigator under NFPA 921 must test
6 his hypothesis before he can turn that hypothesis
7 into a cause determination, correct?

8 A Yes.

9 Q Failing to do so would cause the cause
10 determination to lack scientific foundation, correct?

11 A Yes.

12 Q And Mr. Rich, your cause determination in this
13 case would lack scientific foundation if you did not
14 adequately test your hypothesis that became your
15 cause determination, correct?

16 A Yes.

17 Q Would you agree with me -- and I'm
18 specifically now referring to 4.3.8, if you want to
19 read along with me.

20 A And are you in --

21 Q 2008.

22 A 2-8. And I'm sorry. Give me that --

23 Q 4.3.8.

24 A Okay.

25 Q Would you agree with me that the fire

1 investigator should approach his task without
2 presumption as to cause until the use of the
3 scientific method has yielded a provable hypothesis?

4 I'm sorry. That's 4.3.7.

5 A I was going to say, I didn't see what you just
6 read. Hold on. Let me get there. 4.3.7?

7 Q Yes.

8 A Okay. All right.

9 Q The fire investigator should approach his task
10 without presumption as to cause until the use of the
11 scientific method has yielded a provable hypothesis,
12 correct?

13 A Presumption -- yes, I would agree with that.

14 Q In other words -- just put that in lay
15 language -- the fire investigator is supposed to
16 avoid presumptions, correct?

17 A I would say keep an open mind, but yes.

18 Q And the fire investigator is supposed to avoid
19 jumping to a conclusion, correct?

20 A Yes.

21 Q A fire investigator who jumps to a conclusion
22 is unlikely to gather all of the necessary
23 information to reach a scientifically provable cause
24 determination, correct?

25 A That could happen. I don't --

1 Q It's more likely to happen?

2 A I don't know. If -- I mean, yeah, if you have
3 on blinders and ignore information, then maybe, yes.

4 Q Okay. And the fire investigator -- 4.3.8
5 now -- is supposed to avoid expectation bias,
6 correct?

7 A Yes.

8 Q Expectation bias occurs when an investigator
9 reaches a premature conclusion too early in the study
10 and without having examined or considered all of the
11 relevant data, correct?

12 A Yes. That's a paraphrase, but yeah, I think
13 that's generally what this is saying.

14 Q And if an investigator reaches a premature
15 determination about the cause of the fire, that could
16 result in the investigative process being biased in a
17 direction that leads to a scientifically invalid
18 conclusion as to cause, correct? That could happen?

19 A That's too -- there's two questions there.
20 Can you split that up for me or -- I'm not -- or just
21 ask me again. I'm sorry.

22 Q If an investigator reaches a premature
23 determination about the cause of a fire, that may
24 result in the investigative process being biased in a
25 direction which leads to a scientifically invalid

1 conclusion. Would you agree with that?

2 A I would say yes. I don't know scientifically
3 invalid conclusion -- it could lead to the wrong
4 conclusion.

5 Q That's fine.

6 A But -- which I guess would technically be
7 scientifically invalid. So yes, I would agree with
8 that.

9 Q In other words, a fire investigator should not
10 assume the conclusion and then go find the evidence
11 that supports it?

12 A I would agree with that.

13 Q And as it says here, the introduction of
14 expectation bias into the investigation results in
15 the use of only data that supports the previously
16 formed conclusion and often results in a
17 misinterpretation and/or the discarding of data that
18 does not support the original opinion. That's what
19 it says in 4.3.8.

20 A That's where you were? 4.3.8?

21 Q Right.

22 A Oh, right there. The introduction of
23 expectation bias.

24 Q I believe I read that word for word.

25 A That's -- right. Yeah, I wanted to make sure

1 I was in the right place. Yes, that's correct.

2 Q Do you have any disagreement at all with that
3 sentence from 4.3.8?

4 A No. I don't have any disagreement with that.

5 Q And it's important to you as a fire
6 investigator who wants to come to scientifically
7 valid conclusions as to the cause of a fire not to
8 allow expectation bias to creep into your analysis,
9 correct?

10 A That's correct.

11 Q You would agree it's never proper to form a
12 conclusion as to cause and then fit your
13 consideration of the evidence around that conclusion,
14 correct?

15 A Read that to me one more -- ask me one more
16 time.

17 Q Would you agree it's never proper to form a
18 conclusion as to cause and then fit your
19 consideration of the evidence around that conclusion?

20 A I would agree with that, yes.

21 Q And in a case that results in litigation like
22 this one, you wouldn't want to reach a conclusion
23 about the cause of a fire without considering all of
24 the evidence developed through the litigation,
25 correct?

1 A Well, as -- I would say as it pertains to the
2 fire. I mean, there may be other factors in the
3 litigation that would have nothing to do with the
4 fire. But I would say yes as it pertains to the
5 fire.

6 Q In other words, litigation has the ability to
7 unearth information that potentially you hadn't
8 considered before because you didn't know about it,
9 right?

10 A That's correct, yes.

11 Q So you wouldn't want to develop your final
12 conclusion as to what caused the fire until you had
13 that additional information available to you,
14 correct?

15 A Right. Or had all the information that was
16 available to me, yes.

17 Q And that includes deposition of fact witnesses
18 who had something to do with the fire, correct?

19 A Deposition, yes, or statements from them. You
20 know, if a witness provides a statement early on or
21 let's say they're interviewed at the time of the
22 fire. It may not be as important to get their
23 deposition if you have an interview with them, you
24 know, earlier on. I mean, it may be important. It
25 may not be important. You kind of have to see what's

1 there.

2 Q There is a difference between an interview and
3 a deposition in terms of the witness being under oath
4 at their deposition, correct?

5 A Yes, sir.

6 Q And you would tend to pay more attention to a
7 deposition in terms of how a witness describes what
8 he or she did or saw than you would just their
9 statement; would you agree with that?

10 A I would agree that -- sometimes it's
11 different, so I don't know if I agree with that. I
12 mean, sometimes things in deposition are different
13 than what they were -- what you may have been told at
14 the time of the fire.

15 So yes, the deposition's under oath. It has
16 to -- it has to take precedence, I guess would be the
17 way to say that. So I believe I'm answering your
18 question yes, but both of those are still --
19 there's -- they're both still data points, and they
20 both should be looked at and considered.

21 Q You would not want to reach a conclusion about
22 the cause of a fire before examining the under-oath
23 testimony of those who had personal involvement in
24 the events leading up to the fire, correct?

25 A That would be important, yes.

1 Q So I'm going to ask in a slightly different
2 way than I did before. When did you reach your
3 conclusion that an improper application of aluminum
4 phosphide tablets was the cause of the fire in the
5 Severn peanut dome?

6 A I still don't -- I mean, I would still answer
7 it the same way. About the time that I prepared the
8 report.

9 Q Mr. Rich, you reached your conclusion as to
10 the cause of this fire before discovery in this case
11 had even commenced; isn't that right?

12 A I don't understand what you mean before
13 discovery in the case had commenced.

14 Q Discovery in this case commenced pursuant to a
15 January 5th, 2012 scheduling order. No discovery
16 was taken before that. All right.

17 A Okay. Right. Okay.

18 Q You reached your conclusion as to the origin
19 and cause of the Severn peanut fire before then,
20 hadn't you?

21 A I don't know that I had fully reached the
22 opinion, but I certainly had data that was suggesting
23 that could be a cause.

24 Q Mr. Rich, you had reached that conclusion by
25 the time you testified under oath at your deposition

1 in the E.J. Cox v. Pestcon case; isn't that right?

2 A I think I said that there was Fumitoxin
3 involved with that case, but I don't know if I said
4 that I had reached that conclusion.

5 (Exhibit No. 194 was marked for
6 identification.)

7 Q I'm showing you what we're marking as
8 Exhibit 194. If you would please go to page -- first
9 of all, can you confirm to me that this is the
10 transcript of your deposition that was taken in the
11 E.J. Cox versus Pestcon Systems case on July 13th,
12 2011?

13 A Yes, sir.

14 Q And you were testifying under oath that day
15 right here, correct?

16 A Yes, sir.

17 Q All right. Go to page 226. On that day, you
18 were testifying as an expert witness for Mr. Widis's
19 firm, correct?

20 A Yes, sir.

21 Q And you were being questioned by the attorneys
22 for the pesticide application company, Pestcon,
23 correct?

24 A Yes.

25 Q And you were asked on page 226, line 17, have

1 you ever investigated a fire where Fumitoxin was
2 applied contrary to the label that caused a fire?

3 And you answered what?

4 A Yes.

5 Q And then the question was, did not cause a
6 fire?

7 And you answered what?

8 A Yes, that did cause a fire.

9 Q And you were asked, when was that?

10 And you said?

11 A That was at Severn.

12 Q And you were asked, how was that applied
13 contrary to label?

14 And you said?

15 A The application was allowed to pile. The
16 tablets were allowed to come in close proximity to
17 each other. In that case, a very large pile of
18 tablets reacted, and the heat from the reaction was
19 forced into the peanuts. It raised into their
20 ignition temperatures.

21 Q Right. Mr. Rich, when did you form your
22 opinion that -- we know it was as of July 13th,
23 2011, correct?

24 A Right. That's -- that's correct, but that
25 doesn't mean that this wouldn't change if additional

1 information was provided. Because that's what I'm
2 saying. This is a -- that is -- that's what I
3 thought then, and if additional information is given
4 to me, then that would come into play here.

5 Q You had latched onto one hypothesis to the
6 exclusion of all others as to the cause of the Severn
7 peanut fire as of July 13, 2011, correct?

8 A I wouldn't say that I had latched onto it, but
9 that's -- yes, that's what I said.

10 Q You, in fact, described exactly how the fire
11 occurred. The tablets were allowed to come in very
12 close proximity to each other. A very large pile of
13 tablets reacted, and heat from the reaction was
14 forced into the peanuts and raised into their
15 ignition temperature. Correct?

16 A Yes. That's what I said.

17 Q And clearly you had formed that opinion even
18 before July 13, 2011, correct?

19 A I don't know if I would say that. I mean,
20 this is -- that was a -- that -- this is in answer to
21 those questions. So yeah, I would have had some
22 idea, but I don't know that I -- yeah. I would say I
23 do -- I did have -- the opinion that I said here is
24 what I had on this date.

25 Q It's not an opinion you formed in the months

1 preceding writing your report in April of 2013, is
2 it?

3 A This is not, no.

4 Q You didn't need any of the materials or
5 evidence developed through the discovery in this case
6 to scientifically determine the origin and cause of
7 the fire in the Severn peanut dome, did you?

8 A I don't know if I -- well, I don't know that
9 they would -- I would -- no, I would say no.

10 Q You didn't need the materials from the
11 evidence coming from discovery in this case to
12 develop an opinion that you had expressed nearly two
13 years before you rendered your expert opinion?

14 A No. That's correct.

15 Q So whatever anybody testified to in their
16 depositions in this case wasn't going to change your
17 opinion as to what caused the fire, correct?

18 A Not necessarily. That's my point, is when I
19 was talking about this fire in this deposition, if
20 there's additional information -- if there's
21 additional information presented today, that is going
22 to have some effect on the opinion.

23 Q You don't think you reached a premature
24 conclusion as of July 2011 as to the cause of the
25 Severn peanut dome fire?

1 A No, sir.

2 Q You don't believe you let expectation bias
3 play a role in your determination of the cause of the
4 Severn peanut fire?

5 A No.

6 Q You don't believe that you misinterpreted
7 and/or discarded data that did not support your
8 conclusion; is that correct?

9 A Absolutely.

10 Q As of July 13th, 2011, you had also come to
11 the conclusion regarding the size of the piles of
12 tablets IFC applicators created during their
13 application at the Severn peanut dome; isn't that
14 right?

15 A What page was that again? Are we talking
16 about the same place?

17 Q Well, let me ask --

18 A I don't -- I don't think so.

19 Q You don't think so. Go to page 247.

20 A Okay.

21 Q Page 247, line 9, you say, if you look in your
22 manual, it talks about when you place tablets -- I
23 think that's supposed to say tablets and not
24 tables -- on a piece of paper in a commodity
25 warehouse, don't clump those tablets together. Don't

1 put more than 50 tablets in any one piece of paper,
2 one pile, one hole, one probe insertion because of
3 what we're talking about.

4 You were asked, have you seen any documents
5 discussing the -- establishing that there has been a
6 fire as a result of putting too many tablets in one
7 spot?

8 You answer, have I seen any documents to that
9 effect?

10 And then you were asked, anything discussing
11 that that is a possibility of a theoretical or a
12 study in case where that had occurred.

13 What did you say in response to that,
14 Mr. Rich?

15 A The -- my Severn case is more than 250 peanuts
16 in a pile.

17 Q And by that, you meant more than 250 tablets
18 in a pile, correct?

19 A Well, possibly, but it also is more than
20 250 peanuts.

21 Q You were being asked about piles of tablets at
22 that time?

23 A Right. I think that's what they're talking
24 about, and I think that's accurate because in this
25 particular case the 250 is the number of tablets that

1 were involved, not -- I mean, obviously, there were
2 more peanuts than that involved.

3 Q So Mr. Rich, correct me if I'm wrong, but as
4 of July 13, 2011, in your mind, you had concluded
5 that the IFC applicators at Severn had left piles in
6 excess of 250 Fumitoxin tablets?

7 A I don't know if I would say it that way. I
8 think what I'm trying to -- or what I meant here and
9 what I'm saying is there's more than 250 tablets used
10 in the Severn fumigation.

11 Q In a pile? Isn't that what you said?

12 A Yes, that's what I said. In the pile. So it
13 could -- yes, it could be, but also, it's more --
14 there are more tablets used in Severn than the issue
15 that we're discussing here. That's why I said more
16 than 250 in a pile.

17 Q You concluded that then when Randy Turner and
18 Brian Lilley applied Fumitoxin tablets through the
19 hatch in the head house on August 4th, 2009, that
20 they left piles of clumped-together Fumitoxin tablets
21 that were in excess of 250 tablets, correct?

22 A Yes. And it could have been more. Could have
23 been less. He didn't ask me that. But yes.

24 THE VIDEOGRAPHER: Counsel, we need to go off
25 the record, change tapes.

1 This is the end of tape number 2. Time now
2 is 11:46 a.m. We're off the record.

3 (A recess was taken.)

4 THE VIDEOGRAPHER: We're going back on the
5 record. This is the beginning of tape number 3.
6 Time now is 11:58 a.m.

7 Q Mr. Rich, how could you have reached the
8 conclusion that there were piles containing more than
9 250 Fumitoxin tablets on the surface of the peanut
10 pile at the Severn dome as of July 2011?

11 A Well, based on the amount of tablets that were
12 applied and the configuration of the surface of the
13 peanut pile, that's my -- at that point, that was my
14 working hypothesis on the cause and the number. And
15 pretty much I said more than 250 because that was the
16 issue in that case. I don't know -- that's not
17 necessarily -- that number was related to that case
18 more so than this case, if that makes sense.

19 Q But the simple geometry of the peanut pile
20 coupled with the 49,000 tablets by itself led you to
21 the conclusion that there would have been piles on
22 the surface of 250 tablets?

23 A I would say the configuration of the amount,
24 the surface, the configuration of the dome would lead
25 me to believe that there would have been piles, yes.

1 Q Okay. Mr. Rich, identify each and every test
2 that you conducted related in any way to your
3 conclusions and opinions in this case.

4 MR. WIDIS: Object to form.

5 Q And by test, I mean physical tests, not
6 analytical tests.

7 A And by physical tests, you mean like an
8 experiment or --

9 Q Using a substance or process, using something
10 physical.

11 A I do not have any.

12 Q Another way of asking that, you reached your
13 opinions in this case without performing a single
14 physical test regarding the origin and cause of this
15 fire, correct?

16 A Yes, without performing a physical test.
17 That's not to say there was no testing that took
18 place. But yes.

19 Q If you would -- and you may just decide to
20 quote from your deposition in the E.J. Cox case, but
21 I would like you to describe for me the precise
22 sequence of events that in your opinion led to
23 ignition in the Severn peanut dome.

24 A The -- okay. Ask me that one more time.

25 Q Could you share with me in your opinion the

1 precise sequence of events that led to ignition in
2 the Severn peanut dome.

3 A Yes. The sequence of events would be -- see
4 if I -- I'm trying to figure out how to answer that
5 in the order of -- with the report -- in other words,
6 the sequence of the first field ignited, the ignition
7 source, and -- is that the sequence you're talking
8 about, the ignition sequence?

9 Q The ignition sequence being the application of
10 the tablets, how they were applied, what happened
11 then, what continued to happen from a chemical
12 standpoint, from a fire science standpoint, until the
13 moment of ignition.

14 A Okay. That the Fumitoxin was applied through
15 a single opening on the top of the dome by the two
16 IFC employees and that they did that by shaking the
17 cans. And that 49,000 tablets were placed through
18 that single opening onto the top of the peanut pile.
19 There's some discrepancy as to how high that was,
20 from 20 to 25 feet, based on the -- the actual level
21 where the peanuts were below the hatch that they
22 used.

23 That the -- the peanut pile itself, the
24 geometry and configuration is the peanuts -- because
25 they're loaded in the center, even though that

1 flattens out, they slope away, that they are shaking
2 and moving the tablets. There's -- they're going to
3 spread out and cover the top of the -- of the pile.
4 And that they're going to roll or slide and collect
5 because there's also various geometries at the top of
6 the pile. There's valleys as the peanuts slide and
7 roll, and then there's also a -- kind of a trough
8 that's created because as the peanut slope comes down
9 and the dome curves up, that creates a channel or
10 interface where the peanuts and the walls meet.

11 And that the method of application resulted in
12 the collection and the congregation, the piling, the
13 touching of the tablets, and the tablets then -- the
14 reaction began, and the piles and the touching of the
15 tablets via the phosphene -- I'm sorry -- the
16 phosphene gas production began, and that the
17 localized areas around those piles reached the lower
18 flammability level of the phosphene, and there was an
19 ignition and that that ignition ignited -- the first
20 fuel ignited, which would be the farmers stock
21 peanuts, the husk, the broken -- broken husks, pieces
22 of vine, that material that's in there.

23 And then that developed as a smoldering
24 slow -- excuse me -- slow-growth fire, and the fire
25 development continued until it was discovered.

1 Q Okay. I want to take this day by day. How
2 much of that process had occurred as of midnight on
3 August 4th, 2009?

4 A I'm sorry. How much of what -- my process
5 or --

6 Q Of the sequence that you just described, how
7 much of that had occurred by August 4th, 2009, in
8 your opinion?

9 A Oh, the Fumitoxin was applied on August 4th.
10 So that would -- that part would have occurred.

11 Q Any other part of your sequence of events that
12 occurred on August 4th, 2009 before we get to
13 August 5th, 2009?

14 A Well, they sealed the dome back up after their
15 application on the 4th, and I believe that's all.

16 Q Did the reaction commence on the 4th?

17 A Yes, the reaction would have started
18 essentially when the tablets left the -- left the
19 flask.

20 Q Would -- first of all, how many localized --
21 you said there was localized -- let's see if I can
22 quote exactly what you said. Localized areas reached
23 lower flammable -- lower flammability limit of
24 phosphene. How many of those localized areas do you
25 think there were?

1 A I don't know.

2 Q More than one?

3 A Possibly.

4 Q More than ten?

5 A I don't know. It's 49,000 tablets, and it's
6 an irregular geometry of the slope, so it could have
7 been, yes.

8 Q Okay. In your opinion, as of midnight on
9 August 4th, 2009, had that lower flammability been
10 reached in any of those localized areas?

11 A I don't know.

12 Q Do you think it's more likely it happened
13 later or more likely it happened on August 4th,
14 2009?

15 A I would say it's more likely it happened later
16 because the reaction profile of the Fumitoxin tablets
17 are -- it's sort of a bell curve. They start off
18 slow, they maximum the reaction, and then it begins
19 to die down. So I would say it would be later than
20 that.

21 Q So the concentration in those localized areas
22 would have been less, in your opinion, than the lower
23 flammability limit of 18,000 parts per million as of
24 midnight on August 4th, correct?

25 A I don't know that because I don't know how

1 rapidly the uptake of that reaction is. I mean, it's
2 dependent on all the variables, including the piling,
3 the moisture, the size of the tablets, if the tablets
4 are broken, if they're not broken, any of those
5 factors. So other than to say the literature
6 suggests a three- to five-day reaction time -- the
7 applicator's manual -- that's what I have to go with.
8 I can't give you a specific hour-by-hour Fumitoxin
9 release of a pile.

10 Q Okay. Isn't 90 percent of the reaction
11 completed in the first 20 hours?

12 A I don't know if that's correct or not. I
13 think it could be, depending on the temperature and
14 humidity of the -- of the conditions.

15 Q Well, let's talk --

16 A I know there's -- there's different -- there's
17 a couple of papers where they reacted at different
18 times and recorded those times, and there's some
19 variables.

20 Q What was the temperature at the time of the
21 application on August 4th, 2009?

22 A What temperature where?

23 Q The ambient temperature.

24 A I believe it was recorded at about 90 degrees.
25 It's on the fumigators -- it's on the fumigation

1 report.

2 Q Any reason to believe that the air -- ambient
3 air would not have been humid on August 4th, 2009?

4 A Then it probably was.

5 Q Okay. So in terms of the reaction time, would
6 those conditions suggest a quicker reaction than the
7 three to five days or a slower reaction than three to
8 five days?

9 A On the sliding scale, I would -- to me, it
10 would suggest a quicker reaction, more towards the
11 three than the five.

12 Q Okay. What happened on August 5th, 2009
13 inside the dome, in your opinion?

14 A The reaction probably was reaching its peak
15 because it was -- I believe it was a 1 o'clock-ish in
16 the afternoon fumigation time. So 24 hours -- 20,
17 24 hours would be the next morning, was probably when
18 the reaction was reaching it peak. But that's an
19 estimation because we really don't know the exact
20 progress of the reaction.

21 Q That, in your opinion, would mean that if it
22 reached its peak, that that's when the lower
23 flammable limit would have been reached in those
24 localized areas that you described earlier?

25 A Most likely, yes.

1 Q Does that mean ignition would have occurred at
2 the same time or not?

3 A The -- yes, the ignition would have occurred
4 contemporaneous with the reaching of the maximum
5 evolution of phosphene gas.

6 Q Okay. And what temperature would have been
7 reached in those localized areas?

8 A I can't say exactly.

9 Q For there to be ignition, what kind of
10 temperature would you need?

11 A Ignition of the phosphene gas?

12 Q Ignition of the farmers stock peanuts.

13 A Oh. I would say, you know, excess of 400,
14 450 degrees. There's some literature that talks
15 about commodity storage at 3- to 500 C as the
16 ignition temperature. Again, it's a range. 3- -- 3-
17 to 500 C, 450, somewhere in there.

18 Q Mr. Rich, what is your basis for saying that
19 those localized pockets or areas attained the lower
20 flammability limit of phosphene gas?

21 A The basis of the opinion that the -- that the
22 piles reached the LEL?

23 Q Yes, sir.

24 A The basis of that opinion is the research and
25 the literature that suggests the evolution or talks

1 about the evolution of the phosphene and the rate of
2 reaction and the precautionary or the direction not
3 to allow the tablets to stack or pile or even touch
4 in certain situations because that increases the
5 reaction rate. So we're dealing with a product that
6 once it begins to come together, the reaction rate
7 increases and spirals out of control.

8 Q Okay. So the applicator's manual is one of
9 the sources that you would say is a basis for your
10 opinion that the LEL will be reached from a piling of
11 the tablets; is that correct?

12 A It's -- yeah -- one of the sources, I would
13 say, yes.

14 Q Name every other source.

15 A Let me look through here.

16 I would say this -- as far as sources of the
17 LEL being reached, my item 47, the evaluation and
18 priority illness investigation following a phosphene
19 fire at a Kern County commodity processing facility
20 would be a reference. The evolution of phosphene
21 from aluminum phosphide formulations at various
22 temperatures and humidities. I think that's the
23 document I was referring to earlier.

24 Q That's 47, 48.

25 A 48. 52, the --

1 Q That's Schumacher's article?

2 A Report by Schumacher and Jason, correct.

3 53, I believe, talks about the LEL.

4 Q And I'm specifically asking you what your
5 basis is for testifying to an opinion that the LEL of
6 phosphene gas is reached by the mere piling of
7 aluminum phosphide tablets or pellets. That's what
8 I'm asking you about.

9 A Okay. Well, it's reached -- ask me that
10 again.

11 Q I'm not asking you about LEL of phosphene gas
12 or any articles that talk about the LEL of phosphene
13 gas. I'm asking you the basis for your opinion in
14 this case that the mere piling of dry aluminum
15 phosphide tablets or pellets by itself will result in
16 the LEL of phosphene gas being reached.

17 Does that mean still mean 47, 48, 52, and 53?

18 A Yes, I would say so, and then I would also go
19 back to the -- hold on one second. I think I have
20 one more. The number 70, the Burgoyne report where
21 they discuss the piling of the Fumitoxin and
22 subsequent explosion.

23 THE VIDEOGRAPHER: Going off the record.

24 Time now is 12:16 p.m.

25 (A recess was taken.)

1 THE VIDEOGRAPHER: We're going back on the
2 record. The time now is 12:41 p.m.

3 Q Mr. Rich, I think the question that was
4 pending -- you were going through a list of the
5 materials that you had reviewed that you believe
6 support your opinion in this case that the piling of
7 the dry aluminum phosphide tablets will result in the
8 lower explosive limit of phosphene gas being reached.

9 A Yes.

10 Q And you had got me as far as number 70. I
11 think your list included the applicator's manual,
12 number 47, 48, 52, 53, and 70.

13 A All right. And let's go back. I think you
14 just said that the -- which is my number 3, the
15 applicator's manual.

16 Q Yes.

17 A The MSDS --

18 Q Okay.

19 A -- for that. And then I believe you're right
20 with the others. Let's see. Make sure that's all of
21 them. And I believe -- I don't know if he talks
22 about the LEL or LFL, but 73, the information
23 provided by Dr. Rauscher.

24 Q Okay.

25 A And I think that would be all.

1 Q Okay. Mr. Rich, according to NFP 9021, your
2 theory as to the cause that is the piling of dry
3 aluminum phosphide tablets resulted in the fire must
4 be tested using a scientific method before it can be
5 accepted as the likely cause of this fire, correct?

6 A Well, it's not tested by the scientific
7 method. The scientific method is a process by which
8 you developed the hypothesis and developed the fire
9 cause. The scientific method is not a test. It's a
10 process.

11 Q Okay. Well, if you would, explain to me how
12 and why a dry pile of aluminum phosphide tablets, A,
13 will reach lower flammable limit of phosphene gas
14 and, B, will result in a fire.

15 A Because the product is designed and produced
16 to be reacted individually, each pellet to be reacted
17 individually, once you pile the product together,
18 then that's what changes the dynamic of the reaction,
19 the phosphene production, the configuration of the
20 pile, the LEL being reached, the ammonia carbonate
21 being driven off, the CO2 being driven -- all those
22 factors are uncontrollable and unpredictable once the
23 Fumitoxin has been put in the pile.

24 Q But what is it about the pile that changes the
25 propensity to reach the lower flammable limit of

1 phosphene gas?

2 A The geometry -- excuse me. The ge- -- the
3 fact that it's in a pile. That's what changes the
4 dynamic.

5 Q What about it being in a pile changes the
6 dynamic?

7 A The confinement, the reaction rate, the
8 production of heat, the -- the amount of surface area
9 available for the reaction to take place, the fact
10 that if it's in a pile, the heat that's being
11 liberated by the reaction can be driven into the pile
12 so the ammonia carbonate reaction takes place.

13 And it doesn't really release the inerting
14 agent simultaneous with the phosphene. You can form
15 a crust. You can heat up the area. I mean, all of
16 the -- all of the -- once the chemical is piled up
17 instead of being dispersed evenly, that's when the
18 reaction spirals out of control, because that's when
19 all of the variables start to break down.

20 Q Okay. One of the things you said was the
21 surface available for the reaction to take place is
22 one of the reasons why the lower flammable limit will
23 be reached in that scenario but not if they're evenly
24 distributed. Did I get you right on that?

25 A I believe so, yes.

1 Q Isn't it exactly the opposite? There's a
2 smaller surface area exposed to the ambient
3 conditions if there's a pile because some of those
4 tablets are not exposed to ambient conditions?

5 A I would disagree.

6 Q Okay. Confinement. You say that the
7 confinement of the gas is going to be greater in a
8 pile than it would if there's not a pile?

9 A Yes.

10 Q What is the opposite of confinement as it
11 relates to the production of a gas?

12 A Dispersion or --

13 Q Dispersion.

14 A -- unconfinement, non-confinement.

15 Q Diffusion?

16 A Diffusion.

17 Q Okay. Is it your testimony that you have
18 reviewed enough literature, done enough research,
19 analyzed enough testing results to know whether or
20 not phosphene gas can be confined in a pile of
21 Fumitoxin tablets to the point of reaching its lower
22 flammable limit?

23 A It could be confined by the geometry of that
24 pile, or because the geometry of the pile and the
25 production of the pile, you can exceed the flammable

1 limit in a localized area. In other words, as the
2 gas is coming off of the pile, you can exceed that
3 flammable limit.

4 So it could happen within the pile. It could
5 happen around the edges of the pile.

6 Q How often is that going to happen when you
7 have a pile of aluminum phosphide tablets?

8 A You don't know. That's -- that's the reason
9 that the -- the applicator's manual cautions against
10 piling it. It might happen every time. It might not
11 happen every time.

12 Q Is it going to happen at least 50 percent of
13 the time?

14 A I don't know.

15 Q Is it going to happen at least 25 percent of
16 the time?

17 A I don't know.

18 Q Is it going to happen at least 10 percent of
19 the time?

20 A I don't know.

21 Q Your testimony in this case is that it
22 happened on August 4th, 2009 or August 5th, 2009,
23 correct?

24 A Right. At some time there, because, again,
25 once it's piled, the reaction accelerates because it

1 feeds on itself. So the time frame is still -- we're
2 still at odds on whether I can give you exactly an
3 hour. I mean, it's a range of time, but in general,
4 what I think you said is correct. Yes.

5 Q You are now on record under oath as saying you
6 don't even know to a 10 percent certainty if a pile
7 of aluminum phosphide tablets will reach the lower
8 flammable limit of phosphene gas, correct?

9 A You said every time. It can reach that limit,
10 and that's what the literature says, and that's what
11 the other evidence in the case suggests. But I can't
12 predict how often that will happen, in other words,
13 on a given pile, just like I can't predict how often
14 a cigarette laid on a bed will reach ignition or not
15 reach ignition.

16 Q You can't even tell me that it will happen
17 10 percent of the time, can you?

18 A I don't know that, no.

19 Q And yet you're testifying under oath that the
20 probable cause of the fire in this case is that it
21 did happen?

22 A That's correct.

23 Q Refer, if you would, to section 18.6.2 of the
24 NFPA 921 2008 edition.

25 A What did you say? 18 --

1 Q 18.6.2.

2 A Okay.

3 Q Correct me if I'm wrong, but the last two
4 sentences of that section say, if the level of
5 certainty of the opinion is only, quote, possible or
6 suspected, the cause should be listed as
7 undetermined. Only when the level of certainty is
8 considered probable can a fire cause be classified as
9 accidental, incendiary, or natural. Correct?

10 A Yes.

11 Q Mr. Rich, if you don't know that a reaction of
12 the sort you described is going to take place any
13 more than 10 percent of the time, you can't get from
14 possible to the level of certainty required to label
15 this fire as being caused by that reaction, can you?

16 A I disagree.

17 Q How can you get to a level of certainty
18 required by NFPA 921 if you can't tell me how often a
19 pile of aluminum phosphide tablets is going to result
20 in a lower flammable limit of phosphene gas being
21 reached?

22 A It doesn't say I have to tell you what
23 percentage of time it would happen out of a given
24 number of piles, first. Secondly, the literature
25 says it will happen. The literature cautions against

1 the piling. There's evidence that supports the fact
2 that when it's piled together the reaction spirals
3 out of control, it increases, the -- the controls
4 built into the Fumitoxin tablets by the manufacturer
5 are subverted because it's all clumped together, and
6 the reaction proceeds into a runaway condition.

7 So just like I said before with the -- with
8 the cigarette example, I mean, it's the same thing.

9 Q The reaction proceeds into a runaway condition
10 in the testimony that you've already given to me
11 today potentially as little as 10 percent of the
12 time, correct?

13 A Or more. That's the point. When you pile the
14 product together, you don't know.

15 Q And yet you're testifying in this case that
16 you, Lester Rich, do know; isn't that right?

17 A In this case, yes.

18 Q And what is it that allows you to know what is
19 not knowable?

20 MR. WIDIS: Object to form.

21 A The totality of the circumstances of the case.

22 Q Okay. Mr. Rich, is there any peer-reviewed
23 literature -- peer-reviewed literature that you have
24 come across in any scientific journal that supports
25 the hypothesis that a dry pile of aluminum phosphide

1 is likely to cause a fire?

2 A Can you give me the definition that you're
3 using of peer reviewed?

4 Q Yes. A journal that only accepts publications
5 after an editorial board reviews them, edits them,
6 and so forth.

7 A Right. I'm not certain, but I believe that
8 Schumacher's paper would have been peer reviewed for
9 publication at the ISFI conference. I believe they
10 peer review those papers before they're published --
11 or the presentation. I'm sorry.

12 The -- I don't know if it specifically fits
13 that description, but the applicator's manual is
14 certainly peer reviewed by the company or -- and I
15 believe that also has to go to the EPA, so there's a
16 regulatory component to that.

17 Q I'm talking about a peer-reviewed scientific
18 journal.

19 A Right. A journal. I'm thinking. I can't
20 think of any right now other than possibly that one.

21 Q And I'll ask Mr. Schumacher about whether that
22 was a peer-reviewed journal that he got published,
23 but that's the only one you can think of as you sit
24 there right now?

25 A Yeah. Let me glance at the list, but I think

1 so. Because I'm trying to think if it -- to meet
2 that definition.

3 I don't know for certain, but I believe this
4 number 53 on my report, Spontaneous Ignition Limits
5 of Saline and Phosphene for the National Institute of
6 Materials and Chemical Research in Japan -- I believe
7 that was -- I would expect that to be peer reviewed.
8 I don't know that for certain.

9 Q You think the periodical Combustion and Flame
10 is a peer-reviewed scientific journal?

11 A I think that's a conference, not a journal.

12 Q Okay.

13 A The UL reports would probably be peer
14 reviewed.

15 Q Which one?

16 A Both of them. I'm sorry. My 55, 56, UL.

17 Q Okay. You said UL. I'm asking you about a
18 peer-reviewed journal article.

19 A I'm sorry. I'm sorry. You're right. The
20 journal article. The -- I don't really -- I mean,
21 there's -- you know, there's several -- there's
22 several articles here, and there's several research
23 papers. I don't know other than possibly the
24 exception of Mr. Schumacher's because I know a little
25 bit about that conference -- if they're peer reviewed

1 or not.

2 Q Okay. Mr. Rich, is there any test or study
3 that has been reported by any certified laboratory
4 that supports your hypothesis that a dry pile of
5 aluminum phosphide is likely to result in the lower
6 flammable limit of phosphene gas being reached and a
7 fire occurring?

8 A I think that depends on the amount of
9 phosphene that you're referring to. In other words,
10 I'm not -- I'm not sure what --

11 Q Well, let me ask it this way. You've got on
12 your list number 54, Underwriting Laboratories,
13 April 12th, 1961, Underwriting Laboratories,
14 October 7th, 1964, Underwriting Laboratories,
15 April 1983.

16 Those three Underwriting Laboratory reports,
17 sir, do they support your hypothesis in this case or
18 do they tend to discredit your hypothesis in this
19 case?

20 A Well, there was ignition in some of those, but
21 I wouldn't say that they tend to support it or
22 discredit it because the amount of Fumitoxin that
23 they're using is less than the amount of Fumitoxin
24 that we're dealing with in this case.

25 Q Based upon your supposition of how many

1 tablets were piled in piles, correct?

2 A The total amount that was applied, yes.

3 Q Well, we're talking about piles. We're not
4 talking about the total amount applied in this case,
5 correct?

6 A Right. But there's -- right. That's correct.

7 Q In fact, in none of those underwriting
8 laboratory reports was any ignition ever obtained in
9 the absence of the introduction of liquid water;
10 isn't that correct?

11 A Absence of -- yes. I believe it is -- I
12 believe they said liquid, yes.

13 Q And your theory is that a pile of dry aluminum
14 phosphide tablets will have this reaction and did, in
15 fact, have this reaction in this case, correct?

16 A I'm not sure I understand what you mean by
17 dry.

18 Q Without liquid water being introduced.

19 A Without liquid water, yes.

20 Q Your testimony in this case is that there was
21 no liquid water that was introduced to the piles, as
22 you've called them, of aluminum phosphide tablets
23 left by the IFC applicators?

24 A That's correct. To my knowledge, there was no
25 liquid water introduced.

1 Q And yet you believe you had this runaway
2 reaction that you've been talking about and that's
3 what caused the fire?

4 A Correct.

5 Q The Underwriting Laboratory reports do not
6 support that theory in any way, shape, or form, do
7 they?

8 A Well, they did require liquid water to get
9 their ignition of their small quantity of tablets.

10 Q And in the absence of that liquid water, there
11 never was ignition, correct?

12 A That's right.

13 Q Have you read the Siemens report?

14 A Yes, sir.

15 Q And the same is true in the Siemens report,
16 correct?

17 A I believe that's correct. Which --

18 Q I don't see it listed. I can hand you a copy
19 if you would like.

20 A If you would, please. That might be at the
21 very bottom on mine.

22 Q Which one?

23 A 80 or 81 at the very bottom. I believe that's
24 what you're talking about.

25 Q Oh, yes. Yes.

1 A Let's look -- I don't remember that one as
2 well as the UL. So let me look at that real quick.
3 Do you have --

4 Q I do.

5 A Let's take a look. I think you're correct,
6 but if you don't mind me looking.

7 Q We'll mark it as Exhibit 195.

8 (Exhibit No. 195 was marked for
9 identification.)

10 A That was that very beginning. Yeah, you're
11 correct.

12 Q All right. Did you recently receive from
13 Mr. Widis the report undertaken by MDE Labs in this
14 case?

15 A Yes.

16 Q Okay. Did you review the various types of
17 testing that MDE Labs did in relation to this case?

18 A Yes, briefly.

19 Q Okay. And like the UL reports and like the
20 Siemens report, did that testing show that in the
21 absence of the introduction of liquid water, piles of
22 aluminum phosphide tablets did not result in
23 combustion?

24 A That's correct. I believe their tests
25 resulted in no combustion.

1 Q All right. To make sure we're clear, every
2 single certified laboratory test that you have seen
3 related to the question of whether dry aluminum
4 phosphide tablets piled together can cause combustion
5 resulted in there being no combustion, correct?

6 A And again, when you're saying dry, you're
7 talking about liquid water, but you're not taking
8 into consideration humidity or other factors?

9 Q Well, let's back up. Humidity is required for
10 the reaction to commence, correct?

11 A Correct.

12 Q Okay. Putting the humidity and the ambient
13 air aside, is it correct to say that every certified
14 laboratory testing result that you have seen in the
15 course of your investigation into what caused the
16 Severn peanut dome fire has reached the same
17 conclusion that aluminum phosphide tablets when
18 stacked or piled together do not combust in the
19 absence of the introduction of liquid water?

20 A Yes. That's what the laboratory reports have
21 suggested.

22 Q Okay. And in view of all of those laboratory
23 reports that we have just been through, did you
24 consider whether perhaps it might be important for
25 you to do some kind of testing to show and

1 demonstrate that the piling of aluminum phosphide
2 tablets, in fact, could result in either the lower
3 flammable limit of phosphene gas being reached for
4 combustion?

5 A Yes, I considered that possibility.

6 Q Okay. Well, let me hear about your
7 consideration of that possibility and what became of
8 it.

9 A The consideration is that while the
10 small-scale tests that you've referred to have been
11 done and can be done, they don't really translate to
12 the full-scale situation that we have here. The
13 small bench-scale testing may or may not translate to
14 this 49,000 -- 100 tablets that MDE tested may not
15 translate to 49,000 tablets.

16 And again, when you put the -- when you put
17 the material in the pile, that's what sets off the
18 reaction, and the -- to really test that, you would
19 have to re-create the entire geometry of the dome and
20 the conditions, I believe.

21 And the -- I thought of something else, but
22 that's to the -- to the test. Yes, I thought about
23 that. But I think -- but I think there's an issue
24 with the transfer of the small-scale test to the
25 amount of Fumitoxin that we have here.

1 Q But Mr. Rich, your testimony and opinion in
2 this case isn't that 49,000 tablets of Fumitoxin
3 combusted, correct?

4 A Well, some of them would have reacted. Some
5 of them would have combusted. We don't know.

6 Q Your testimony -- and I wrote it down -- in
7 terms of the sequence of events was that there were
8 localized areas reached where the LFL of phosphene
9 gas was reached, correct?

10 A Yes.

11 Q And those localized areas, in your mind, are
12 piles, correct?

13 A Yes.

14 Q Well, isn't each of those piles its own
15 self-contained environment for purposes of whether or
16 not the LFL is going to be reached?

17 A In general, yes. It could be reached in one
18 and maybe not reached in the other. Is that what
19 you're -- what you're asking? I'm not --

20 Q One pile is not dependent upon another pile in
21 terms of whether the LFL in or around that pile is
22 going to be reached, correct?

23 A No. They would -- they're not dependent on
24 each other. But if they're proximal to each other,
25 that would certainly have some effect on it. Again,

1 it's -- once you start -- whether it's three little
2 piles all clumped together or a larger pile, that's
3 what I'm saying. When you get it in a pile, that's
4 where the problems occur.

5 Q Mr. Rich, in view of the fact that every
6 certified testing laboratory that has done any
7 experimentation with dry aluminum phosphide tablets
8 has failed to yield a single result of combustion
9 from the piling of those tablets in the absence of
10 introduction of liquid water, don't you think you
11 could have designed a test to demonstrate that it
12 really is possible under some scenario to get a fire
13 from the piling of aluminum phosphide tablets?

14 A I still go back to the -- yes and no. I mean,
15 yes, you might -- could design a test to see how many
16 you could get there. But no, because you don't know
17 the geometry within the dome and the way that these
18 tablets fell and were piled together.

19 Q Is there no test that you can think of that
20 would rig the test in the most favorable way to the
21 LFL being reached into combustion to see whether or
22 not you would actually get the LFL being reached and
23 combustion?

24 A I don't know the answer to that. I don't know
25 if you could -- I don't know what you mean by rig the

1 test. I mean, I don't know if you could do that or
2 not.

3 Q Well, based upon what you know about how this
4 ignition sequence occurred, what would you want to
5 include in your test to make it as likely as possible
6 that you're going to get combustion absent the
7 introduction of liquid water?

8 A Right. Well, if you're just dealing with --
9 again, it's the -- what's unknown and what makes that
10 question difficult is you don't know the
11 configuration of the tablets as they were piled in
12 the dome or as the piles occurred in the dome. So to
13 try to re-create that, I think, is -- I don't think
14 you can accurately do that.

15 Q I think we're missing each other, Mr. Rich.
16 Forget you ever heard anything about the Severn
17 peanut dome fire. Okay?

18 A Okay.

19 Q I'm asking you as someone who has experience
20 and training in forensic chemistry -- because you've
21 told me you have, correct?

22 A Yes.

23 Q -- to design for me a test to prove that you
24 can get combustion from the piling of aluminum
25 phosphide tablets without the introduction of liquid

1 water. Based upon all the literature you've read and
2 you've told me about --

3 A Right.

4 Q -- it's your opinion you can, correct?

5 A Yes.

6 Q Design for me the test that's going to
7 demonstrate that.

8 A Well, absent some other parameters, which I
9 don't know that I can consider off the top of my
10 head, I mean, really you would -- to do what -- to
11 answer the question correctly like you're asking me
12 to, you would have to sit down and design an
13 experiment. And there may be other factors that I'm
14 forgetting or not -- don't think to include here.
15 But essentially I would say the gist of the test
16 would be to accumulate different-size piles of
17 phosphene under different conditions, because
18 although you've been talking a lot about liquid
19 water, the humidity also affects that.

20 And so if I put them in 100 percent humidity
21 environment versus a 40 percent and I have two of the
22 same size piles, I expect they're going to be
23 different reaction rates going on.

24 So in broad terms, I would say that would be
25 the experiment to perhaps try -- set up various tests

1 with various size piles under various atmospheric
2 conditions. But again, it comes back to what I was
3 saying earlier. Just because you do that test
4 100 times doesn't mean 99 times there's going to be a
5 fire. Just like -- just like I said earlier with a
6 cigarette fire, if you put a cigarette on a bed --
7 and I've done it -- you may or may not get a fire.
8 But you can get a fire when you put the cigarette on
9 the bed. And it takes a lot of repetition to do
10 that.

11 There's -- there's lots of examples of -- or I
12 mean -- not lots. There are examples where
13 laboratories have undertaken tests to prove something
14 happened with not being able to get it to go but it's
15 well known that that's the fire cause. It's
16 documented that's the fire cause.

17 One example is Fire Phonics. They threw
18 cigarettes in trash cans to try to get it to go. And
19 it took, you know, many, many, many times before a
20 fire actually happened.

21 So that's what I'm saying. In your general
22 broad theory of designing an experiment, it would be
23 different-size piles under different configurations
24 and different geometries with different humidity and
25 temperatures, both ambient and the temperature of

1 the -- of the Fumitoxin, in other words, the initial
2 temperature of the Fumitoxin. All of those -- all of
3 those factors are going to play into whether you get
4 an ignition or not. And there -- all those factors
5 are also sort of independent of each other, so just
6 barely changing one variable or the other might
7 result in an ignition in this pile and not in this
8 pile. Otherwise the piles are identical.

9 Q All things being equal, the higher the
10 humidity, the higher the temperature, the greater the
11 likelihood the reaction is going to reach the point
12 that you think is going to result in the LFL being
13 attained, correct?

14 A In conjunction with it being in a pile?

15 Q Correct.

16 A Yes.

17 Q So you really don't need to test the
18 40 percent humidity and the 35 degrees to try and
19 demonstrate you're going to get this reaction. You
20 need to demonstrate something more like 95 percent
21 humidity and 95 degrees to see whether those extreme
22 heat and humidity conditions will liberate enough
23 phosphene gas and contain that gas to the point of
24 the LFL being reached, right?

25 A Well, certainly what you asked previously,

1 yes, the more adverse the conditions are that you
2 subject the pile of tablets to, I would suggest the
3 more likely you're going to get the ignition, if
4 that's -- if that was your question. I'm sorry.

5 Q And Mr. Rich, if you did that test under the
6 most adverse conditions with a large pile of
7 Fumitoxin tablets 100 times and didn't a single time
8 get the LFL being reached or a fire, would it still
9 be your testimony that, well, yeah, that's still
10 capable of causing a fire even though under testing
11 conditions it never does? Would that still be your
12 testimony?

13 A It would be, but not like you said that.

14 Q Okay. Go ahead and say it the way you would
15 say it.

16 A I would say there is -- I would say that just
17 because it didn't happen in your laboratory test
18 doesn't mean it can't happen in a given warehouse on
19 a given day under a given set of circumstances with a
20 given set of parameters.

21 Q Would you agree that for your hypothesis or
22 theory in this case to be scientifically valid, it
23 must be uniquely consistent with the facts and with
24 the principles of science?

25 A I think that's out of 921. I would certainly

1 agree that it's consistent with and I'm not sure
2 about the uniquely, but I believe you're correct on
3 that.

4 Q Would you agree --

5 A Is that from a particular place in 921?

6 Q I don't have the reference, but it is.

7 Would you agree with me that for your
8 hypothesis or theory to be scientifically valid, it
9 must also stand the test of careful and serious
10 challenge?

11 A That, I would agree on. And I'll say it again
12 that I don't necessarily agree with uniquely but
13 possibly.

14 Q How did you test your hypothesis or theory
15 that the Severn peanut fire was caused by the piling
16 of the Fumitoxin tablets during the August 2009
17 application?

18 A By comparing the information that I had, the
19 facts associated with the case, the totality of the
20 circumstances, the -- by taking those, dealing with
21 just -- in one particular instance, just Fumitoxin,
22 applying that, working it through the scientific
23 method, which has a working hypothesis of maybe this
24 is Fumitoxin, working hypothesis, maybe this is
25 spontaneous combustion, working hypothesis, maybe

1 this is lightening strike, maybe this is incendiary
2 fire, and test the facts as we have them against
3 those hypotheses. And as those other hypotheses fall
4 away, you're left with the most probable cause of the
5 fire.

6 Q Is it your opinion that when the NFPA talks
7 about testing one's hypothesis as to the cause of a
8 fire that the methodology for doing so is to analyze
9 competing causes and then eliminate those? Is that
10 your understanding of what NFPA 921 means?

11 A That's part of it. It doesn't mean that you
12 have to create a physical test of your theory before
13 you can say that that's your final tested hypothesis.

14 Q But you have to do some kind of testing of
15 your theory as opposed to other hypotheses, don't
16 you?

17 A Yes. You have to do some kind of testing, but
18 that doesn't necessarily mean it's a physical,
19 laboratory, or experimental test.

20 Q What I asked you is what testing you did not
21 of other theories in this case but of your theory
22 that the Fumitoxin being in piles caused this fire.

23 A Correct.

24 Q Tell me what testing you did of your theory.

25 A That is the testing. I have taken the

1 scientific method and the cognitive test and the
2 facts that are presented in this case and applied
3 them and tested this hypothesis against all of the
4 information, the literature, the facts, the witness
5 statements, the -- all the information that's
6 involved with the case.

7 Q Okay. That's different than the answer you
8 gave a minute ago --

9 A I'm sorry.

10 Q -- when you were talking about other theories
11 that you eliminated.

12 A Well, and part of that testing or part of that
13 scientific method, part of that hypothesis
14 development and testing would include the elimination
15 of other -- other potential causes.

16 Q But you tested analytically your theory
17 against all of the evidence in this case and
18 concluded that your theory is consistent with the
19 facts and evidence in this case?

20 A Yes.

21 Q Okay. Tell me every fact that you considered
22 from the evidence to be consistent with your
23 hypothesis or theories as to what caused this fire.

24 A Okay. Let me look back at my report, if
25 that's all right. Okay. Now you're going -- the

1 facts that's -- I think support my theory --

2 Q Yes.

3 A -- of the ignition of Fumitoxin? Not other
4 hypotheses?

5 Q Correct.

6 A Okay. The first fact would be there was a
7 fumigation. The amount of Fumitoxin that was applied
8 would be considered. The way it was applied, the
9 method of distribution would be considered. The
10 geometry of the pile or the area where the Fumitoxin
11 was being placed. In this case, I did consider some
12 of the preexisting thermocouple data. There was --
13 IFC attempted to take some measurements of
14 temperatures on the top of the dome on the 14th.
15 The thermal imaging camera image is certainly data.
16 A sample was collected from the top of the peanut
17 pile.

18 Q Not to short-circuit you, but you're referring
19 to the considerations specifically set forth in your
20 report?

21 A That's correct.

22 Q Okay.

23 A Is that not what you wanted or --

24 Q So there's nothing outside of your report that
25 you considered to be a fact consistent with your

1 hypothesis or theory in the case?

2 A I don't -- now -- well, I considered like the
3 reference material and the applicator's manual to be
4 facts. I don't know if that's -- I don't know if
5 that's -- I don't want to say no, but that's -- that
6 part is included with this, I think.

7 Q I'm talking about evidence associated with
8 Severn Peanut Company and the peanut dome.

9 A Right. Right. Okay. That's what I thought
10 you were talking about.

11 Q Did you list in your report every fact that
12 you considered to be consistent -- every fact related
13 to the Severn Peanut Company and the peanut dome that
14 you believe is consistent with your theory as to what
15 caused the fire.

16 A Well, I'm trying to figure out how to answer
17 that because I didn't list -- there are facts
18 reported in the applicator's manual and the other
19 research papers. I didn't list those out here, but I
20 would consider that they are part of this hypothesis
21 and opinion.

22 Q Yeah.

23 A And I'm not trying to -- I want to make sure
24 that I don't just go yes and then you say, oh, well,
25 you can't refer to the applicator's manual. But

1 there's stuff in there that supports this.

2 Q We're missing each other.

3 A I'm sorry.

4 Q Because I was, again, focused on facts related
5 to the Severn Peanut Company and the Severn peanut
6 dome. Those are the only facts that I'm talking
7 about that support your opinion in this case or are
8 consistent with your opinion in this case. And I
9 think you have tried to tell me that if there are
10 such facts related to the peanut company or the
11 peanut dome, you've listed them in your report.

12 A Right. And maybe that's where -- maybe I'm
13 trying to take your question too far. But there are
14 additional facts and information that also support
15 this, not just what's listed. But I see what --
16 you're trying to separate the stuff at the dome --

17 Q Correct.

18 A -- from the other facts that might be
19 available through deposition or research papers or
20 whatever?

21 Q Correct.

22 A Okay. Yes. Then in that case, I will say
23 yes, you're -- those -- those -- sorry. Those
24 dome-related facts are listed out in our report
25 here -- in my report.

1 Q Let me ask you the opposite question. Are
2 there any facts whatsoever that you believe, being as
3 candid as you can, are inconsistent with your
4 hypothesis or theory as to what caused this fire?

5 A Ask me that one more time.

6 Q Sure. Are there any facts whatsoever, again
7 focused on Severn Peanut Company and Severn peanut
8 dome, that you believe are inconsistent with your
9 hypothesis or theory as to what caused this fire?

10 A No. And that's -- and that's part of the
11 reason that I was able to reach this conclusion is
12 because I don't think there are any outlying facts
13 that do not fit within this hypothesis.

14 Q Mr. Rich, did you make any assumptions about
15 any facts in this case where you did not have hard
16 data to determine whether something was true or not?
17 Did you make any assumptions at all?

18 A I don't believe so, because the facts of the
19 dome and stuff are reported. You know, either
20 witness statements or deposition or observations or
21 photographs, that type of thing.

22 Q Okay. Well, what I want to do now -- and
23 we'll spend at least a couple of hours doing -- is
24 working my way through your report, so --

25 A Okay.

1 Q -- you probably don't need anything in front
2 of you at this point other than Exhibit 192, and I'm
3 literally starting at the very beginning, and I'm
4 going to take you to page 5.

5 A Okay.

6 Q Toward the bottom of page 5, in your second
7 sentence, you state, additional moisture reduction in
8 the stock -- and there you're talking about the
9 peanut stock -- resulted from the operation of the
10 fans during the cooling periods from approximately
11 December to February of each year.

12 That's what you wrote, correct?

13 A Yes, sir.

14 Q What's your basis for stating that the running
15 of cool air through the peanut mass will reduce the
16 peanuts' moisture content?

17 A The -- I think he -- well, when I interviewed
18 RP Watson, he told me that, and I believe he also
19 said that in his deposition. I think we had that
20 conversation earlier about interviews versus
21 deposition. But that's one item.

22 And then I believe there is -- I believe
23 there's a research -- or there's a paper that also
24 talks about air movement through stored commodity
25 reducing the moisture content.

1 Q Is it your understanding that running cold
2 winter air through a stored commodity will reduce its
3 moisture content?

4 A In general, I would say yes, and specifically
5 that's what RP Watson told me as related to this
6 incident.

7 Q But whatever RP Watson tells you, whatever the
8 science is is going to be what controls what actually
9 happened, correct? It's a scientific proposition,
10 isn't it?

11 A Correct.

12 Q RP Watson is not a scientist, is he?

13 A No, but I believe he had first-hand
14 experience --

15 Q Okay.

16 A -- about this situation, this particular
17 sentence.

18 Q How long were those fans run from December
19 until February, as you understand the evidence?

20 A My understanding is it was intermittent, and
21 it was run either in the evenings or the mornings
22 when it was cool. And there are no -- I have not
23 seen any records indicating a time frame or
24 parameter.

25 Q Did you know that Mr. Watson's testimony

1 speaking on behalf of his company was that the fans
2 were never run more than two hours per day?

3 A I did read that, and I believe that's correct,
4 and I think specifically he's talking about the --
5 this particular stock of peanuts.

6 Q Correct.

7 A Because that was part of the issue is
8 previously I think they had had problems running the
9 fan.

10 Q All right. How much of the 21-million-pound
11 mass of peanuts would have been affected by running
12 the fans two hours per day?

13 A How many days?

14 Q Do you believe that you're going to get
15 cooling air through the entirety of the
16 21-million-pound mass of peanuts in two hours?

17 A I don't believe so.

18 Q Well, if you run the fans the next day for two
19 hours, do you think you're going to start at the
20 bottom that day?

21 A No. I think it would probably be a gradual
22 process through the pile.

23 Q And so you think you're going to get all the
24 way to the bottom if you run it for enough days in a
25 row at only two hours a day?

1 A I don't know. I would be guessing.

2 Q Is there a calculation that can actually
3 figure that out?

4 A There may be.

5 Q You haven't undertaken that calculation?

6 A I have not.

7 Q You don't know what it is?

8 A I would suspect it's some sort of airflow
9 calculation, but no, I have not -- I have not done
10 that calculation.

11 Q Go to page 6, please. On page 6, in the
12 second paragraph, you say, the expected geometric
13 configuration of the peanuts inside the dome created
14 a series of plateaus, flattened areas, valleys,
15 ridges, and slopes across the surface of the stored
16 commodity. Correct?

17 A Yes.

18 Q What is the source of that information that's
19 concluded in that paragraph?

20 A That's my personal observations of peanuts
21 being loaded into different kinds of warehouses,
22 particularly the top -- peanuts being loaded into
23 storage from a single point, point-source conveyor.
24 When they come off the pile, it creates just what
25 I've described, valleys, ridges, dips, just because

1 of the way the peanuts fall.

2 Q And you think whatever you've seen in those
3 situations would be the same in a 21-million-pound
4 dome structure like Severn Peanut Company had?

5 A Probably not at the bottom, but as you fill
6 that, the peanuts are going to behave similarly as
7 they -- because it's still a single source or single
8 spout fill and it's still peanuts.

9 Q Did some of the witnesses in this case testify
10 that they had seen that pile of peanuts through the
11 head house when there was no fire?

12 A Yes.

13 Q Did a single witness in this case talk about
14 there being a series of plateaus, flattened areas,
15 valleys, ridges, and slopes?

16 A I believe they did talk about a flattened
17 area.

18 Q Okay. Did anybody talk about valleys,
19 ridges -- valleys or ridges or plateaus being in the
20 peanut pile?

21 A I don't know if it was -- I don't know if they
22 specifically said it that way.

23 Q Your testimony just a moment ago was that that
24 sentence is in your report based upon your personal
25 observations of other peanut warehouses?

1 A Correct.

2 Q And you've applied that to this peanut
3 warehouse, the likes of which you had never seen
4 before in your life, correct?

5 A I have applied it, yes. But like I said, it's
6 not so much the size because the pile's confined.
7 It's the way that they're filled and the way that
8 they come from a single point. And I believe the
9 testimony is that there was a flattened area on top
10 of the pile. I don't know -- I don't think there's
11 testimony about valleys and ridges.

12 But yes, based on my personal experience, the
13 way that peanuts come out of the single point fill,
14 there are valleys and ridges and other anomalies.
15 It's not a -- it's not a smooth cone.

16 Q Mr. Rich, if you are incorrect about what you
17 say on page 6 about the expected geographic -- I'm
18 sorry -- geometric configuration of the peanuts
19 inside the dome, if you're wrong about that, then
20 your ultimate opinion in this case is wrong, too,
21 isn't it?

22 A No.

23 Q That's how you decided there was piling, based
24 upon the expected geometric configuration of the
25 peanuts, correct?

1 A Right. There's a flattened area, there's
2 slopes, and there's also the interface of the slope
3 with the wall.

4 Q Okay. Is it your testimony that you believe
5 that the fire began at the interface of the wall and
6 the peanuts?

7 A No. You were asking me about places where
8 there's -- well, those are places where piling could
9 potentially occur. In addition to the ridges and
10 slopes and other surface irregularities of the pile.

11 Q Let me ask you specifically. Do you believe
12 that this fire had its origin against the wall where
13 Fumitoxin tablets collected at the juncture between
14 the peanuts and the wall?

15 A I don't know. It's possible.

16 Q What do you think is more likely, that fire
17 began there or the fire begun somewhere else on the
18 surface of the peanuts?

19 A Really because of the geometry of the pile and
20 the method of application, the only thing you can say
21 is that the fire began on the surface of the pile of
22 peanuts.

23 Q Page 7 -- if you would go there, please. You
24 quote the applicator's manual in the second
25 paragraph, stating, since phosphene may ignite

1 spontaneously at levels above its lower flammable
2 limit of 1.8 percent v/v, it is important not to
3 exceed this concentration.

4 Did I read that correctly?

5 A Yes.

6 Q What is v/v?

7 A Volume, percent of volume.

8 Q That's what v/v means?

9 A Yes, 1 percent volume.

10 Q I thought v/v meant volume of the gas to the
11 volume of air.

12 A You're right. Yes. I'm sorry. You're right.

13 Q Is phosphene the only gas produced by the
14 reaction that occurs when Fumitoxin tablets react
15 with humidity?

16 A What was the -- phosphene --

17 Q Is phosphene the only gas produced by the
18 reaction that occurs when Fumitoxin tablets react
19 with humidity?

20 A No.

21 Q What other gases are created?

22 A Ammonia and carbon dioxide, based on the
23 formulation of the Fumitoxin we're talking about in
24 this particular case.

25 Q What is the ratio of phosphene to carbon

1 dioxide to ammonia that is liberated by Fumitoxin
2 during the reaction?

3 A I'll have to look in a reference material to
4 give you that.

5 Q Okay.

6 A I think it's in the -- I think it's in the
7 applicator manual.

8 THE VIDEOGRAPHER: It's the end of tape
9 number 3. Time now is 1:33 p.m. We're off the
10 record.

11 (A recess was taken.)

12 THE VIDEOGRAPHER: We're going back on the
13 record. Beginning of tape number 4. Time now is
14 1:50 p.m.

15 Q Mr. Rich, when we went off the record, you
16 were looking to find the ratio of the ammonia and
17 carbon dioxide and phosphene liberated by Fumitoxin
18 tablets. Did you find that?

19 A I only found the amount of Fumitox -- or I'm
20 sorry -- the amount of phosphene released from a
21 single tablet and the reaction --

22 Q Which is what?

23 A -- which is 1 gram.

24 Q You couldn't find the --

25 A I don't have right in front of me -- I can't

1 put my hands on the percentage of ammonia and CO2
2 that are released.

3 Q How does the fact that ammonia and CO2 are
4 also produced from Fumitoxin relate to the ability of
5 liberated phosphene to reach 1.8 percent v/v? Do
6 those inerting --

7 A Ask me that again. I'm sorry.

8 Q Yes. Do the carbon dioxide and ammonia being
9 released at the same time as phosphene gas retard the
10 production of phosphene gas to the point that it's
11 difficult for the phosphene gas to reach 1.8 percent
12 v/v?

13 A Yes, as long as the individual tablets are
14 reacting. In other words, that's the formulation and
15 the design and the manufacture of the tablet is that
16 the phosphene and the ammonia and the carbon dioxide
17 are released simultaneously from a single tablet
18 that's not in a pile with other tablets.

19 Q So I think your testimony is to the extent
20 that they're individual tablets, the ammonia and
21 carbon dioxide will prevent the phosphene gas from
22 reaching its lower flammable limit but not true in a
23 pile?

24 A You said single tablets to start with?

25 Q Yes.

1 A Correct.

2 Q Okay. You quote the statement that I've heard
3 from you earlier that -- from the applicator's
4 manual -- that aluminum phosphide tablets or pellets
5 outside their container should not be stacked or
6 piled up or contacted with liquid water. This may
7 cause a temperature increase, accelerate the rate of
8 gas production, and confine the gas so that ignition
9 could occur.

10 Do you see that?

11 A You're on page 7; is that correct?

12 Q Yes.

13 A Yes, sir, that's correct.

14 Q And you rely on that statement in the
15 applicator's manual to support your opinion in this
16 case that piled aluminum phosphide tablets without
17 the introduction of liquid water can cause the lower
18 flammable limit of phosphene gas to be reached and
19 ignition, correct?

20 A Yes.

21 Q You rely heavily on that portion of the
22 applicator's manual for your opinion in this case;
23 would you agree with that?

24 A I wouldn't say that I rely heavily on it. I
25 would say I rely on it as well as other sections of

1 the applicator's manual as well as other sections of
2 the -- other published documents and references that
3 talk about the ignition.

4 Q Well, this is the only section of the
5 applicator's manual that talks about the piling up of
6 aluminum phosphide tablets causing a temperature
7 increase, accelerating the rates of gas production,
8 and confining the gas so that ignition could occur.
9 Would you agree with that?

10 A Accelerate -- right. I believe that's the
11 only -- yes. That's the only -- this is the only
12 section in the applicator's manual that says that,
13 yes.

14 Q All right. Mr. Rich, do you know if any
15 scientific research or testing was undertaken by any
16 manufacturer, laboratory, or government agency which
17 led to the quoted language being included in the
18 manual that you're looking at -- in the manual that
19 you quoted that information from?

20 A I don't know of a test that results in that
21 verbiage.

22 Q Okay. Would you agree with me, Mr. Rich, that
23 the quoted language by itself does not serve as a
24 scientific basis for the conclusion that the stacking
25 up of dry aluminum phosphide tablets is likely to

1 result in a fire?

2 A Well, I don't know if I can agree other than
3 just what the -- what the sentence says on its face.
4 I mean, it says -- I think you had a likely or
5 something in there. I mean, it says the -- this may
6 cause temperature increase, accelerate the rate of
7 gas production, and confine the gas so that ignition
8 could occur. I don't think you read it exactly like
9 that, but --

10 Q Does the quoted language say how likely it is
11 that the stacking or piling of dry aluminum phosphide
12 tablets will cause a temperature increase?

13 A Does it say how likely?

14 Q Yes.

15 A No.

16 Q What does it say about it causing a
17 temperature increase?

18 A It says it may cause a temperature increase.

19 Q In other words, that a temperature increase is
20 a possible result of that condition, correct?

21 A Yes, that's what this particular verbiage
22 says. That's a possible result. But we also know
23 that if you increase the temperature or increase the
24 rate of reaction, then that drives -- temperature
25 increase drives the rate of reaction. So there's --

1 I mean, there's other -- there are other -- there are
2 other sources other than this sentence that talk
3 about this phenomenon, I guess is what I'm trying to
4 say.

5 Q But what this sentence is saying is that a
6 temperature increase may occur from the piling of
7 aluminum phosphide tablets, correct?

8 A Yes. It may increase the temperature,
9 accelerate the rate of gas production, and confine
10 the gas so that ignition could occur.

11 Q Nothing about that sentence says how likely
12 any of those phenomena are to happen from the piling
13 of aluminum phosphide tablets, correct?

14 A I would agree, yes.

15 Q Does the quoted language say how likely it is
16 that the stacking or piling of dry aluminum phosphide
17 tablets will cause ignition?

18 A Is that -- ask me -- would you -- did I just
19 say that or --

20 Q No. We're talking about ignition now.

21 A Okay. I'm sorry. I'm sorry.

22 Q Does the quoted language say how likely it is
23 that stacking or piling of dry aluminum phosphide
24 tablets will cause ignition?

25 A No, it does not.

1 Q It just says that ignition could occur,
2 correct?

3 A Yes, sir.

4 Q In other words, ignition is a possible result
5 of piling or stacking of aluminum phosphide pellets
6 or tablets, correct?

7 A Ignition is -- right. Yes.

8 Q Right. You have relied on the language we
9 have just been looking at to support your conclusion
10 in this case that the piling or stacking of aluminum
11 phosphide tablets in the Severn dome did, in fact,
12 cause ignition, correct?

13 A A portion of it, but not solely relied on
14 this. I mean, this is certainly a factor in my
15 opinion, but I would not say that this sentence is
16 the sole reason I've reached my conclusion.

17 Q Understood. But you're relying on the fact
18 that this sentence in the applicator's manual said
19 this is a possible result of piling to lead you to
20 the conclusion that that is probably what happened in
21 this case, correct?

22 A One of the things.

23 Q The last sentence on page 7 states that,
24 quote, technical grade aluminum phosphide may contain
25 impurities which may produce diphosphene gas.

1 Right?

2 A Yes, sir.

3 Q You then note that diphosphene gas may
4 spontaneously ignite in ambient temperatures,
5 correct?

6 A Yes.

7 Q What was your purpose of including that
8 information -- for including that information in your
9 report?

10 A Because that's another factor involved in
11 this -- in this case. It's additional information
12 about this particular incident.

13 Q How do you know that diphosphene had anything
14 whatsoever to do with this case?

15 A Well, I know that when the aluminum -- I'm
16 sorry -- the Fumitoxin begins to react, there are
17 impurities that occasionally produce diphosphene, and
18 if those diphosphenes are present, they reduce the
19 autoignition temperature of the phosphene.

20 And the example of that is given in the manual
21 where they caution against opening the flask when it
22 would flash upon opening. Just a flask at ambient
23 temperature would flash upon opening. So obviously
24 that flash is -- I mean that flask -- sorry.

25 MR. WIDIS: I got it.

1 A That flask is not at 100 degrees, the
2 autoignition temperature of the phosphene.

3 So the diphosphenes effectively lower that
4 ignition temperature.

5 Q If they're present in the particular aluminum
6 phosphide tablets at issue?

7 A Yes, sir.

8 Q And Mr. Rich, it would be pure speculation to
9 conclude that such impurities were present in the
10 Fumitoxin tablets applied in the Severn dome,
11 wouldn't it?

12 A I don't think it's pure speculation, no.

13 Q How could you know whether there were
14 impurities in the aluminum phosphide tablets that
15 were applied in the Severn dome?

16 A Well, you can't know that, but there are --
17 there's anecdotal evidence -- there's information to
18 support that this particular diphosphene reaction or
19 the inclusion of the diphosphenes in the reaction
20 will take place.

21 Q But only if those impurities are present in
22 the aluminum phosphide tablets at issue, correct?

23 A Yes.

24 Q Which isn't going to be true for all aluminum
25 phosphide tablets, is it?

1 A I don't know.

2 Q Let's move to page 8. You say in the very
3 last sentence on that page, the higher the
4 temperature, the more rapidly the chemical change
5 occurs.

6 Correct?

7 A Yes, sir.

8 Q And I think we've covered this. On
9 August 4th, 2009, the temperature at the time of
10 application was approximately 90 degrees, correct?

11 A I don't think we covered that. I think we
12 need -- we have to -- I would say we need to refer to
13 the fumigation report to get that temperature.

14 Q I'm talking about ambient air.

15 A I think it's recorded on there, but -- and I
16 believe that's correct, but I don't know that for
17 sure.

18 Q All right. Assuming that's true for the
19 purpose of saving a little bit of time, assuming that
20 the ambient temperatures were recorded at 90 degrees
21 at the time of the application, you would have
22 expected the liberation of the phosphene gas from the
23 Fumitoxin tablets to have occurred pretty quickly,
24 correct?

25 A Well, if they were dumped on the ground

1 outside -- in other words, if they're occurring in a
2 90-degree environment.

3 Q Okay. So it's more a question of what the
4 head space or surface of the peanut pile's
5 temperature was as opposed to the ambient air?

6 A Yes. Right. I would say so. And it also
7 possibly had some effect as to the temperature of the
8 Fumitoxin.

9 Q Okay. You would expect the temperature of the
10 Fumitoxin fairly quickly to approximate the
11 temperature of the ambient air, wouldn't you?

12 A In this set of circumstances, I would.

13 Q Okay. So assuming the ambient air was
14 90 degrees, the Fumitoxin probably went into the pile
15 of peanuts at about 90 degrees, correct?

16 A That -- approximately, yeah. I mean,
17 approximately. I would say that's accurate.

18 Q And therefore, somewhere in 24 to 36 hours you
19 would have expected the vast majority of the
20 phosphene gas to have been liberated, correct?

21 A Like I said before, if the tablets are
22 separate and the reactions occurring, you know, as
23 designed -- I guess would be the way to that -- one
24 tablet reacting, one tablet reacting -- although
25 they're reacting simultaneously. I'm not saying in

1 series. But if you take the warm Fumitoxin and you
2 pile it, then I don't think you can -- you can say
3 that that's going to change that reaction rate.

4 Q Tell me how it's going to change that reaction
5 rate.

6 A It will accelerate the reaction rate.

7 Q Okay. So what might have been 24 to 36 hours,
8 because you were dealing with 90-degree ambient to
9 begin with, is actually going to be even less than 24
10 to 36 hours if you pile the Fumitoxin tablets? Is
11 that what you're saying?

12 A I'm saying that because it's piled, you can't
13 really give -- I mean, you still are stuck with that
14 range. And I -- and you don't know because it's
15 piled. That's the problem. If it was spread out
16 even, I think your assessment is correct. But
17 because it's piled, I don't know.

18 Q I thought you said just a second ago that
19 piling is going to accelerate the reaction rate.

20 A That's what I would expect, yes.

21 Q Wouldn't that stand to reason that if it
22 accelerates the reaction rate that that will shorten
23 the total length of time necessary for the reaction?

24 A In general, yes. And I would agree with that
25 in general. There may be -- because of this crust

1 that might develop over the exterior of the pile and
2 the differentiation, just because the air and the
3 moisture can't get to different parts of the pile, it
4 also could extend it because the Fumitoxin down on
5 the bottom may not be able to react as quickly as the
6 Fumitoxin up on the surface.

7 Q Haven't you just said two very inconsistent
8 things, Mr. Rich?

9 A Okay. Maybe, but point it out and let me try
10 to fix it.

11 Q On the one hand, you said if you pile, you're
12 going to have an acceleration of the reaction rate,
13 correct?

14 A Yes, sir.

15 Q And then you said because of crusting over
16 that you can also get the situation where some of the
17 Fumitoxin tablets on the interior of the pile don't
18 have a chance to react, correct?

19 A Yes.

20 Q Which is it?

21 A It is both. And that's the problem with the
22 piling because it alters the way that IFC and the
23 manufacturers determined -- it alters the way the
24 chemical reaction occurs.

25 Q As you sit here right now, you don't know

1 which of those two scenarios is more likely to
2 happen, the acceleration of the reaction or the
3 retarding of the reaction because of crusting over,
4 correct?

5 A In my opinion, the acceleration is probably
6 more likely to happen, but you can't discount the
7 tablets embedded in the pile that would also stretch
8 that reaction out.

9 Q Is it possible that some of those tablets in
10 the middle of the pile will actually never even
11 react?

12 A I would say yes, that's possible.

13 Q Wouldn't you want to kind of study those
14 issues before you state an opinion in a \$20 million
15 case as to what the most likely scenario actually is?

16 A I did study those.

17 Q Wouldn't you want to study those in a setting
18 where you can actually see what happens in a pile of
19 Fumitoxin tablets with your own two eyes and with
20 thermocouples and with gas detection equipment?

21 A I mean, you could do that, yes, but it's not
22 completely necessary to develop an opinion in this
23 case.

24 Q Well, you just said that there are two
25 distinct possibilities as to what will happen in a

1 pile of Fumitoxin tablets. On the one hand, you
2 might have the acceleration of the reaction, in which
3 case you'd have a more energetic reaction, correct --

4 A Yes.

5 Q -- than you otherwise would.

6 On the other hand, you said you might have a
7 crusting over of the exterior of the pile such that
8 the interior of the pile doesn't even react, correct?

9 A Right. But I think we're maybe -- by
10 listening to you explain it, I'm not saying that --
11 those aren't two separate things. I mean, it's --
12 the reaction is taking place on the outside. You've
13 got the humidity and the air is available, the
14 Fumitoxin available for reaction. That reaction is
15 occurring. There's heat being generated. The
16 reaction is speeding up because you're increasing the
17 temperature, and it's working its way into the pile
18 of Fumitoxin.

19 And there's tablets down on the bottom of the
20 pile that it may take longer for that reaction to get
21 to.

22 Q So which is it? Is it an acceleration of the
23 reaction rate overall or is it deceleration of the
24 reaction rate overall?

25 A It's an acceleration of the reaction rate

1 overall from the exterior of the pile.

2 Q Okay. Where was the origin of this fire?

3 A The surface of the dome -- I mean the surface
4 of the peanuts inside the dome.

5 Q Where was the point of origin of the fire?

6 A I don't know. The area of origin is all that
7 I was able to determine.

8 Q On the surface of the peanut pile?

9 A Yes.

10 Q And laterally across the peanut pile, you
11 can't state with any likelihood one place or another?

12 A Not particularly.

13 Q Did you make any effort to determine the point
14 of origin of the Severn dome fire?

15 A Yes.

16 Q And what effort did you make?

17 A I attempted to put the camera in early on. I
18 attempted to look with the thermal imager. And then
19 I also drew a sample out from under the hatch to see
20 if, in fact, there was Fumitoxin residue there, which
21 there was. So those three -- three things.

22 Q Which there was or wasn't? I didn't hear.

23 A There was. There was no phosphene in the
24 sample, but there was -- it was reacted Fumitoxin, I
25 believe, was what the actual lab report said.

1 But yes, so I did make efforts to see if there
2 was a way -- and I looked at the -- the in-house
3 thermocouple data to see if there was a way to
4 identify a point of origin, but I don't feel that you
5 can.

6 Q You listed six hypotheses at the bottom of
7 page 9 of your report, correct?

8 A Six. Yes, sir.

9 Q Now, Mr. Rich, I don't see listed the
10 possibility that liquid water made contact with the
11 Fumitoxin tablets. Did you not consider that
12 possibility?

13 A Yes. I considered that within number 6. I
14 didn't put that out as a separate -- it's not a
15 separate hypothesis. It's included as number 6.

16 Q Well, you actually don't talk about liquid
17 water in your report at all, do you?

18 A I don't think I do.

19 Q You actually didn't analyze a scenario by
20 which liquid water could have gotten into contact
21 with the Fumitoxin tablets, did you?

22 A No, that's not true. I did consider liquid
23 water being present, and I believe the information
24 that I have is that there was not -- there were no
25 leaks or other water intrusion into the dome.

1 Q Okay. Go forward to page 11, please. And at
2 the top of page 11, you're talking about
3 self-heating, correct?

4 A Yes.

5 Q One of the reasons you eliminated self-heating
6 of the peanuts as a possible cause of this fire is
7 because you concluded that the fire began at the
8 surface of the peanut pile, correct?

9 A That -- well, I think self-heating and thermal
10 runaway and spontaneous combustion eliminate
11 themselves, but that is an issue, yes.

12 Q You concluded that the fire began on the
13 surface of the peanut pile because of your conclusion
14 that the Fumitoxin on the top of the pile was the
15 cause of the fire, correct?

16 A Yes.

17 Q There's no evidence whatsoever that the fire
18 began on the surface of the peanut pile, is there?

19 A I think there is.

20 Q Tell me every piece of evidence you have that
21 supports your conclusion that the fire began on the
22 surface of the peanut pile.

23 A Well, I would go back to the same items that
24 we listed on page 8, and then also there's some
25 evidence to suggest that previously functioning

1 thermocouples inside the building that have been
2 giving readings were not giving accurate or maxed out
3 or were giving 230-degrees readings at the time of
4 the discovery of the fire.

5 So that would suggest that there's a fire on
6 the surface working its way into the pile.

7 (Exhibit No. 196 was marked for
8 identification.)

9 Q I'm showing you what's being marked as
10 Exhibit 196, and I'll also show you what we're going
11 to mark as Exhibit 197.

12 (Exhibit No. 197 was marked for
13 identification.)

14 Q Mr. Rich, can you point me to the
15 thermocouples that you're referring to that establish
16 that you had a surface fire on August 11, 2009?

17 A Well, I didn't say that. That's another
18 factor to consider. I didn't say that just the
19 thermocouples would establish that it was a surface
20 fire. I think, again, you go back to the totality of
21 the circumstances or -- this -- okay. I'm sorry. I
22 was looking at the wrong -- the -- what I just
23 referred to was the August -- let's go back here
24 to -- these are going -- okay. Here it is.

25 Q In fact, go ahead on Exhibit 196 and circle

1 for me every data cell that you believe supports your
2 conclusion that there was a fire on the surface of
3 the peanut pile.

4 A Okay. The reason that I said that is I'm
5 looking at the July 13th data, which is --
6 thermocouple arrays 3 and 13 are giving numbers.
7 They're giving temperatures.

8 And then on August the 11th at 9:00 p.m.,
9 after discovery of the fire, number 3, number 13, and
10 a portion -- a portion of number 1 are no longer
11 giving -- giving data. So that suggests that the
12 fire is burning into or attacking those trees so that
13 what was previously giving data has now been
14 compromised by the fire.

15 Q That means the fire is hitting some portion of
16 those three cables, correct?

17 A Yes.

18 Q Those cables run from the top of the dome to
19 11 feet off the surface of the floor of the dome,
20 correct?

21 A Yes.

22 Q What does a cable going bad because it's being
23 attacked by a fire have to do with demonstrating that
24 the fire is located on the surface of the pile?

25 A Well, because where the fire attacks the cable

1 and burns with the insulation, that short or that
2 point where the thermocouple's wires touch now
3 becomes the data point. In other words, if you have
4 a cable laid out and you have a connection down here,
5 that's where it's taking its temperature where the
6 two dissimilar metals meet. If somewhere up the
7 cable you short that, you touch those wires together,
8 that then becomes the point that the temperature is
9 being taken, not what you originally had down here.

10 So if the fire is on the surface burning into
11 these trees or attacking these trees, and even if
12 it's attacking the trees at the top of the dome where
13 they leave the dome, that's what -- that's why I'm
14 saying -- I'm not saying that the fire was at 1, 3,
15 or 13. I'm saying that previously functioning
16 thermocouples now, after this August 11th time
17 frame, are not giving that data. So they've been
18 compromised or attacked in some fashion in between
19 this time.

20 Q And that has nothing whatsoever to do with
21 whether the fire emanated on the surface of the
22 peanut pile, does it, Mr. Rich?

23 A In my mind, it does.

24 Q I don't understand. Explain to me how that
25 has anything to do with where the fire began. The

1 same result could be equally true if the fire began
2 in the middle of the peanut pile or toward the bottom
3 of the peanut pile; is that not correct?

4 A Not -- I don't think so. But it has to do
5 with the fact that these three trees are being
6 attacked and they're not -- they're no longer giving
7 recordable data, but they previously were giving
8 recordable data.

9 Q Is it your testimony that they're being
10 attacked at the surface of the peanut pile?

11 A They could be, yes, or they could be being
12 attacked a little bit above the surface of the pile.

13 Q Or they could be being attacked from within
14 the peanut pile?

15 A They could be, yes.

16 Q And you could still wind up losing all the
17 data from the cable?

18 A Well, if it was being attacked from within the
19 pile, you would expect that at least somewhere that
20 was below in the pile you would still be getting
21 data. If you're attacking it down here deep in the
22 pile, then the other sensors up above might still be
23 giving you -- I mean, you would expect that they
24 would still be giving you data. It's only that --
25 the reason I think this is because as we attack it at

1 the surface, that takes out the entire array below
2 that.

3 Q Okay. Is it your testimony that the entire
4 array in a cable of the sort Safe-Grain installed
5 could only become dysfunctional from top to bottom if
6 it was attacked at the top of the cable?

7 A Only dysfunctional if it was attacked at the
8 top of the cable. Not the entire -- in other words,
9 if you attack at the top, I think they got the entire
10 cable. If you attack it midline or near the bottom,
11 then you're going to -- I think you'll have different
12 readings -- you could still be getting readings from
13 above where the fire is attacking the cable -- or
14 vertically, I mean above.

15 Q Have you talked with Scott Chant of Safe-Grain
16 about whether that is, in fact, true?

17 A I have not talked with Scott Chant.

18 Q Have you talked with anybody who manufactures,
19 sells, installs, or repairs temperature cables in
20 agricultural warehouses to determine whether what you
21 just said about where you're going to get readings
22 and where you're not is true?

23 A I have not talked to anybody in the
24 agricultural business, no.

25 Q Would it surprise you to learn that you can

1 have a compromise of one of these temperature cables
2 anywhere along the cable and result in the entire
3 cable being dysfunctional?

4 A Well, not necessarily, because, I mean, that's
5 the nature of the thermocouple cable. I mean, if you
6 attack it or you breach it or you short it, then that
7 takes out what's below it.

8 Q My question to you is, would it surprise you
9 to learn that it is possible for an entire
10 temperature cable to become dysfunctional without
11 producing any data by attacking it at a place in its
12 middle or bottom? Would it surprise you to learn
13 that?

14 A I would say at the bottom, yes.

15 Q That would surprise you?

16 A Yes.

17 Q You don't think that can happen?

18 A I don't think if you attack it at the bottom
19 it's going to affect the arrays above it.

20 Q And what if you attack it in the middle?

21 A Then I think that you would attack -- if you
22 attack it in the middle, it will affect what's below
23 it, or depending on how it's attacked, I guess you
24 could take out the whole cable.

25 Q Okay. And if I hear you correctly, you have

1 concluded that because previously functioning cables
2 3 and 13 were not functioning as of August 11th,
3 2009, that those cables were attacked by fire at the
4 top of the cable toward the surface of the peanut
5 pile, correct?

6 A Yes, that they were attacked by fire. I
7 believe, yes, it's towards the surface, and I think
8 your example of number 1, which I included, suggests
9 just that, that the bottom of the thermocouple tree
10 in number 1 is giving readings, but the top is now
11 not giving readings.

12 Q Okay. Sir, do you know where the -- one, two,
13 three, four, five, six -- the seventh sensor on cable
14 1 was located?

15 A Let's see. They're numbered from the bottom.
16 That -- since that's number 7, that would be about
17 halfway up the pile. I mean, I don't --

18 Q Well, the first one is 12 and a half feet,
19 right?

20 A Right.

21 Q Then it's 19 and a half feet, right?

22 A Yes.

23 Q 26 and a half feet, 33 and a half feet, 40 and
24 a half feet, and 47 and a half feet. So the next one
25 that's missing there is 54 and a half feet, correct?

1 A And you're at?

2 Q I'm at the seventh position.

3 A Right. Right. 54. Okay.

4 Q That's over 50 feet below the ceiling of the
5 dome, isn't it, sir? Right?

6 A You're saying that number 7 is 54 feet --

7 Q Above the ground.

8 A -- above the ground.

9 Q Uh-huh. Do you disagree with that?

10 A No. I agree with that. I'm just trying --
11 I'm trying to get it right in my head the order that
12 they were to remember what I had, but that's --
13 you're correct.

14 Q The ceiling is 96 feet off the ground,
15 correct, at the center?

16 A Yes.

17 Q Cable 1 is at the center, right?

18 A Cable 1 is at the center, yes.

19 Q You've got 51 and a half feet between the
20 ceiling and where that sensor was located, correct?

21 A Yes.

22 Q Even assuming you've got head space of
23 25 feet, you're still nearly 30 feet into the peanut
24 pile where that sensor became inoperable as of
25 August 11, 2009, correct?

1 A Yes, if -- yes.

2 Q That does not establish anything supporting
3 the existence of a fire on the surface of the peanut
4 pile, does it, sir?

5 A No, that does not.

6 Q In fact, by your analysis, that establishes
7 that the fire began on cable 1 somewhere 51 and a
8 half feet below the surface of the ceiling of the
9 dome, correct?

10 A No, because that doesn't take into
11 consideration 3 and 13, which also were giving
12 readings.

13 Q I'm looking at number 1.

14 A Right. But that's not -- I'm not saying that
15 that's where the fire started. I said these are
16 indications that the fire was attacking these cables.

17 Q And the fire was attacking the cable number 1
18 specifically some 30 to 35 feet below the surface of
19 the peanut pile; isn't that correct?

20 A It's possible that's correct. We don't know
21 that for certain based on these two pieces of data.
22 But it's possible.

23 Q Well, a moment ago you were saying don't
24 ignore number 1 because number 1 is also telling us
25 that we have a surface fire. Isn't that what you

1 were telling me just a moment --

2 A Yes, that is what I said. That's what I said.
3 I believe I was incorrect.

4 Q The fact of the matter is that the hottest
5 temperatures recorded on Exhibit 196 are well within
6 the peanut pile; isn't that correct?

7 A I don't know if that's correct or not. The --
8 because you don't really know what 13 and 3 are.

9 Q Putting aside 13 and 3, the hottest
10 temperatures that includes reliable data --
11 208 degrees on cable 11, 205 degrees on cable 12,
12 201 degrees on cable 12, 201 degrees on cable 11,
13 200 degrees on cable 11 -- all those readings are
14 within the mass of peanuts, correct?

15 MR. WIDIS: I'm going to object to the form
16 of the question.

17 A Well, I will agree with you that they're
18 within the mass of the peanut. I will not
19 necessarily agree with you on the reliability of them
20 based on what Mr. Chant has said in his depositions.
21 But I -- yes, I would agree that these numbers
22 recorded as written show higher temperature inside --
23 in the pile.

24 Q And if the fire began on the surface, as of
25 August 11th, 2009 at 9:00 p.m., can you explain why

1 some 85 feet below the ceiling of the dome you're
2 getting temperature readings of 200 degrees?

3 A Again, if those are accurate, the method of
4 the -- well, yeah, because you're raising the
5 temperature inside the dome because of the combustion
6 that's taking place. You have smoldering combustion
7 taking place. You're raising the temperature, as we
8 talked about earlier, throughout the dome.

9 Now, it's going to take longer to raise the
10 peanuts. It's going to take a little bit longer
11 probably to raise the concrete temperature. But
12 because the fire is burning in a sealed environment,
13 the only place for the heat from combustion to go is
14 back into the product and into the head space.

15 Q Mr. Rich, other than Exhibit 196, do you have
16 any basis to support your conclusion that the fire in
17 the Severn peanut dome began on the surface of the
18 peanut pile?

19 MR. WIDIS: Object to form.

20 A I would say not other than what we talked
21 about on page 8, and that's the -- again, the -- all
22 of the facts that I have before me.

23 Q The facts before you on page 8 just relate to
24 all of the different applications of Fumitoxin by
25 IFC?

1 A I'm sorry. I'm sorry. I was talking about on
2 page 15. We've been through 15, where we talked
3 about the items that I suggest support the Fumitoxin
4 fire.

5 Q You're talking about the -- whether or not
6 piles were created?

7 A Yes, that phosphene was applied, whether piles
8 were created, the surface configuration, the
9 temperature, the arrays. All of that, yes.

10 Q I'm asking if there is any physical evidence,
11 demonstrative evidence, evidence that we can look at,
12 on a piece of paper, in a photograph, that supports
13 your conclusion that the fire began on the surface of
14 the peanut pile other than Exhibit 196 which we've
15 just spent some time working on.

16 MR. WIDIS: Object to form.

17 A Not that I'm aware of.

18 Q Mr. Rich, if, in fact, as you say, the fire
19 had begun on the surface of the pile, would you have
20 expected heat from that fire to have made the head
21 space hotter than places within the pile?

22 A Well, the heat produced by the combustion --
23 the smoldering combustion is going to -- actually,
24 it's going to go in both directions because we're
25 talking about a smoldering fire, so that's a -- it's

1 a -- it's a -- it's a moving flame zone. It's from
2 particle to particle. Just like a cigarette, from
3 tobacco particle to tobacco particle. It's a moving
4 front.

5 So it's going to move into the pile and up the
6 pile in this glowing combus- -- sorry -- glowing
7 combustion. That's going to drive heat energy into
8 the pile as well as liberate it off the top.

9 Q In a structure fire, what's the hottest
10 portion of the structure once the fire gets going?

11 A In flaming combustion or smoldering
12 combustion?

13 Q Let's take both.

14 A Smoldering combustion, the flame front zone is
15 the hottest portion.

16 Q Right where the --

17 A Where the shouldering -- where the combustion
18 zone is taking place. That's the hottest portion.

19 In flaming combustion or free-burning fire,
20 the primary transfer is convection. So the hot air
21 rises. So it's going to be hotter initially -- well,
22 it's going to be -- the layer collection is going to
23 the hotter at the ceiling. The reaction zone where
24 the flames are actually burning, where there's
25 pulling of air and oxidation is occurring will be

1 hotter than the ceiling, obviously.

2 Q Flaming fire, heat transfer is primarily
3 upward?

4 A That's correct.

5 Q You're saying smoldering fire, it's going to
6 be driven in both directions?

7 A Yes, sir.

8 Q All right. Well, be it -- considering that to
9 be true, don't you find it odd, looking at
10 Exhibit 196, that the temperatures being recorded in
11 the head space are in the range of 115, 135, 150,
12 when you have temperatures significantly higher than
13 that at the bottom of the peanut pile?

14 A Well, one, that's a big head space to change
15 temperature in. Two, the readings you're looking at
16 are point measurements, particularly even so in the
17 head space, because it's a very small point that's
18 measuring the temperature. And -- and it's a
19 seal- -- that's the differ- -- it's a sealed
20 container. It's a sealed environment. So the amount
21 of heat that's being liberated through combustion can
22 only go -- it has to stay in that system. It's not
23 an open system, like a room fire or a house fire.

24 I think that's the difference here.

25 Q Look at Exhibit 197, if you would. We talked

1 about these temperature readings earlier, and I
2 believe it was your testimony that you did not
3 receive these temperatures prior to departing the
4 scene of the fire. Correct?

5 A Yes, sir. I believe I got these shortly after
6 that.

7 Q Where in your report on the section on
8 self-heating did you review and analyze these
9 pre-August 2009 temperatures?

10 A I'm not -- I'm not sure I understand the
11 question. I mean, I analyzed them and I looked at
12 them in conjunction with discussing or what I was
13 considering the spontaneous combustion.

14 Q Show me. Show me where.

15 A I don't -- what do you mean show you where.

16 Q Show you [sic] where you considered those
17 temperatures in your report, specifically on the
18 section on self-heating.

19 A Oh. Well, I didn't -- I didn't specifically
20 list them out, but they're -- they're included kind
21 of in this discussion about the pre-August 4th
22 temperature reading, the discussion about the
23 thermocouple array 16 being -- you know, giving the
24 same reading over an extended period of time.

25 Q Can you show me what you're pointing to.

1 A Oh, I'm sorry. Page 12, they're included, I
2 would say -- most of that's included in the paragraph
3 that starts with the Safe-Grain, where I reference
4 these tables talking about the thermocouple array
5 number 16. It's about three or four sentences down.

6 Q So your analysis is the highest
7 pre-August 4th, 2009 non-default reading recorded
8 on July 13, 2009 was 91 degrees. The arrays do not
9 show any sporadic increase or spiking of temperatures
10 on the order of several hundred degrees Celsius, as
11 expected, if self-heating proceeds to thermal
12 runaway.

13 Correct?

14 A Yes, sir.

15 Q That was essentially your analysis of
16 Exhibit 197?

17 A Essentially, yes.

18 Q Okay. Was Exhibit 197 not telling the story
19 of what was happening inside of that dome prior to
20 the time of the fire?

21 A I don't -- I don't follow what you're asking.

22 Q What information do we have as to where there
23 was a heating process going on inside of that dome
24 prior to the time of the fire?

25 A Oh, the -- the temperatures recorded by the

1 Severn employees, if you agree to their accuracy.

2 Q And that's Exhibit 197, correct?

3 A And that's 190- -- yeah. I'm sorry. Yes, the
4 answer would be Exhibit 197, because I think this
5 covers from -- let me look. This covers from
6 December, January, February, March. Because this one
7 stops in July, correct? Yes. Okay.

8 Q And Mr. Rich, did you analyze whether there
9 was self-heating going on as demonstrated by
10 Exhibit 197?

11 MR. WIDIS: Object to form.

12 A Yes, I considered that.

13 Q Was there self-heating going on?

14 A There is -- if these temperatures are
15 accurate, there is some indication that there was
16 self-heating.

17 Q Did you review Mr. Montross's report -- I'm
18 sorry -- Dr. Montross's report, Mr. Rich?

19 A I reviewed it very briefly.

20 Q Let me show you what we're marking as
21 Exhibit 198.

22 (Exhibit No. 198 was marked for
23 identification.)

24 Q 198 is Dr. Montross's report. Does that
25 appear to be correct?

1 A Yes, I believe so. I mean, that's what it
2 says on it.

3 Q Okay. Did you come to understand that
4 Dr. Montross detected the existence of hot spots
5 within the peanut dome prior to August of 2009?

6 A I'm not sure I understand what you mean by he
7 detected them. I mean --

8 Q Noted them.

9 A That's what he says in his report, that there
10 were hot spots in existence.

11 Q Did you understand that, that that's what he
12 says in his report?

13 A Yes.

14 Q Go to page 42, if you would. And I will tell
15 you that in Exhibit 42 he's referencing Exhibit 197,
16 which we've just been looking at. Do you have 197
17 still handy?

18 A Yes, sir.

19 Q 190- -- there you go. And he has marked with
20 a red X each one of those sensor readings -- of
21 course. Each one of those sensors that he labeled to
22 be the hot spot. Do you see that?

23 A Is that what the red X is?

24 Q Yes.

25 A Okay.

1 Q So for instance, cable number 2, the seventh
2 sensor. Cable number 3, the sixth and the seventh
3 sensor.

4 A Wait. Hold on a second. Cable number 1 --
5 I'm sorry. Cable number 2.

6 Q The seventh sensor.

7 A The seventh sensor. Let me number these so I
8 can do this here. Okay. So number 2 is number 7.
9 Okay.

10 Q Cable number 3, cable number 4, and cable
11 number 5, the sixth and the seventh sensors and cable
12 number 6, the sixth sensor.

13 A That's the 85?

14 Q If you're looking at July 13th.

15 A Yes.

16 Q Yes.

17 A Is that what I'm supposed to be looking at
18 or --

19 Q Yes. That's correct. And what he said in his
20 report was that those sensors were consistently
21 hotter than the other sensors in the dome in 2009.

22 A Okay.

23 Q If you look forward on page 57 --

24 A Now, I mean, are we going to go back and look
25 at those, or is that -- is that what -- is that what

1 he said?

2 Q Accept that to be true for this point in time.

3 A Okay.

4 Q So just accept it to be true.

5 Page 57 shows you the actual physical location
6 of those sensors relative to all the other sensors in
7 the dome. Do you see that?

8 A I do.

9 Q Did you take any particular note of these two
10 charts that we've been looking at or the graph and
11 the chart that we've just been looking at on pages 42
12 and 57 when you had an opportunity to look at
13 Dr. Montross's report?

14 A I did see these. I don't fully grasp this
15 three-dimensional cone diagram or -- I'm sorry --
16 dome diagram. I read what he says, but I don't quite
17 understand how it's laid out up here --

18 Q Okay.

19 A -- in the schematic.

20 But yes, I did see these when I perused the
21 report.

22 Q Did you understand what Dr. Montross is saying
23 is that the temperatures on the sensors that we just
24 looked at on pages 42 and 57 progressed at an
25 entirely different rate than the rest of the sensors

1 in the dome? Did you understand him to be saying
2 that?

3 A No, I did not -- I didn't take that from what
4 I've read.

5 Q Well --

6 A I got that they're warmer, but I'm not sure I
7 follow you on the -- what did you say? Steady
8 progression?

9 Q Progressed at an entirely different rate.

10 A I'm sorry. Right. No. I --

11 Q Okay. Well, go ahead and look at page 59,
12 which is simply plotting out of those temperatures
13 versus the other temperatures in the dome.

14 A You said 59?

15 Q Uh-huh, which is figure 16.

16 A For the hot spot.

17 Q The hot spot is red.

18 A And that's -- this is referenced back to the
19 figure 14?

20 Q Correct.

21 A Wait. That's this one.

22 Q It's both of them.

23 A Okay. All right. So we got that. On 113.

24 Q In fact, the colors match, so if you're
25 looking at page 57 -- yeah, if you're looking at

1 page 57, you can look at page 59 and see the average
2 temperatures by color. So the green on page 57 is
3 the green on page 59.

4 A Okay. That's what I was getting ready to ask
5 you. That's what you meant.

6 Q The blue on page 57 is the blue on page 59,
7 and the red on page 57 is the red on page 59.

8 And on March 11th -- and these are just
9 taking the actual numbers from Exhibit 197 --

10 A Okay.

11 Q -- and transposing them onto charts and
12 graphs.

13 On 3/11, you can see that the blue core
14 temperatures as he labeled them were almost identical
15 to the red hot-spot temperatures as he labeled it and
16 that both of those were a little bit elevated from
17 what he labeled to be the outer temperatures.

18 Do you see that?

19 A You're in between --

20 Q March 11th.

21 A March 11th. Right.

22 Q Right. Do you see that?

23 A Wait. I don't know about the above -- his --
24 does he show me the ambient temperature, or is it the
25 line?

1 Q The line --

2 A Is --

3 Q -- if you look on the legend, is the 21-day
4 average ambient.

5 A Okay.

6 Q So you have a confluence on March 11th of the
7 21-day average ambient temperature, the hot spot, and
8 the core temperatures, all of which are almost
9 identical. Do you see that?

10 A Yes.

11 Q And then in June, on June 9th, the hot spot
12 temperature is above 60, the core temperature looks
13 like it's just above 50, and the outer temperature is
14 just below 50. Do you see that?

15 A You're on June 9?

16 Q June 9th.

17 A Well, I see the -- oh, I'm sorry. The outer
18 temperature -- is that outer rings in the dome -- or
19 that's -- that's not the ambient temperature. That's
20 the outer rings of the dome.

21 Q Correct. I'm sorry.

22 A Okay.

23 Q The line --

24 A Yeah, because I was going to say, to me the
25 ambient temperature is above --

1 Q Correct.

2 A -- all of those temperatures.

3 Q That's correct. The ambient temperature --

4 A Okay.

5 Q -- on June 9th --

6 A Okay.

7 Q -- is above the hot spot, which is just above
8 60, which is above the core temperature, which is
9 just above 50, which is above the outer temperatures,
10 which is just below 50.

11 Do you see that?

12 A Yes. And that's his range delineated by the
13 lines on either side of the point; is that correct?

14 Q No. No. The -- I don't know the answer to
15 that question, but I know the square, the diamond,
16 and the circle are the average of the temperatures in
17 the zones.

18 A Oh, okay. So not a -- not -- okay. Wait a
19 minute. I'm confused. The square, the diamond, and
20 the circle are averages?

21 Q Correct.

22 A Of what? This or --

23 Q Of the cables that we looked at just a moment
24 ago.

25 A Okay. Okay. Oh, the averages of --

1 Q The blue, the green, and the red.

2 A The ones I circled?

3 Q Yes. So --

4 A Wait a minute. I got it. I think I got it.

5 So --

6 Q If you put 57 side by side with 59 --

7 A I told you, I haven't looked at this, so I'm
8 sorry, but be patient with me. I just want to make
9 sure I'm looking at the right -- I want to make sure
10 I'm understanding.

11 Q Put these two side by side.

12 A Right.

13 Q They match. The green --

14 A Okay.

15 Q -- squares are the average of the green
16 circles on page 57.

17 A No. My question is the red circle, the blue
18 rectangle -- I mean blue diamond and the green square
19 are the averages that correspond to these temperature
20 readings and it's the average all of those sensors?

21 Q No. It's the average of the sensors that
22 you're looking at that match the color on page 57.
23 57, everything you see in green is averaged together.

24 A Okay. And that gives me this dot over here?

25 Q Gives you a square.

1 A Okay. But what -- what are these? Those
2 colors -- those numbers, those temperatures, what is
3 that? What is he averaging?

4 Q Page 59 is a graph that shows the average
5 temperatures within the dome at each date measured in
6 three different areas of the dome.

7 A Okay. And those are the red, the blue, and
8 the green?

9 Q As denominated on page 57.

10 A Okay.

11 Q Do you see that?

12 A I see that. I'm still slightly confused about
13 what sensors -- no, I think I got it. So these --
14 these sensors -- these sensors -- these green, this
15 green, and this green are all averaged together to
16 give me this.

17 Q To every green square --

18 A Right.

19 Q -- that you see on page 59.

20 A Okay. And there's a -- there's a temperature
21 reading off of here that he's matched up with this?

22 Q Exactly.

23 A I'm with you. Go ahead. Sorry.

24 Q And so basically he's looking at three
25 different areas of the dome --

1 A Okay.

2 Q -- what he denominates the hot spot, the core,
3 and the outer areas, and the outer areas comprise the
4 cables that are on the outside ring of the concentric
5 circles in the Safe-Grain diagram.

6 Does that make sense to you?

7 A Okay.

8 Q And the core temperatures are the temperatures
9 other than the hot spots everywhere interior of the
10 outer ring.

11 Do you want to look at Mr. Chant's diagram?

12 A I was going to say, so that -- in Chant's
13 diagram, that's the two center concentric circles.

14 Q Actually, there's the one in the middle.

15 A Well, the one in the middle. Okay. All
16 right.

17 Q Okay.

18 A And that's the core.

19 Q That's the core with the exception of the red
20 dots that he has denominated to be the hot spot.

21 A And actually, can we -- can we look at
22 Mr. Chant's diagram, just so I don't get confused?

23 Q We can.

24 A Since I had so much trouble with the green
25 squares, let's just look at the diagram.

1 Q I've got it right here. It's Exhibit 105.

2 A All right. So our outer ring is green. The
3 inner three rings are blue. Correct?

4 Q Unless he has denominated --

5 A Unless he has --

6 Q -- a sensor or a hot spot.

7 A -- designated as a hot spot.

8 Q We've already written down which particular
9 sensors those were.

10 A These are blue, and then hot spots are red.
11 Okay. Got that for reference. Now let's go ahead.

12 Q Now, looking back at page 59, do you have a
13 better understanding of what is being graphed out on
14 page 59?

15 A I do.

16 Q Okay. Good. Can you explain why the average
17 temperatures within what Dr. Montross described as
18 the hot spot were some 30 degrees hotter as of
19 July 13, 2009 than the average temperatures in the
20 outer edges of the peanut mass, along the outer
21 concentric circle, why there would be a 30-degree
22 difference between those two?

23 A Well, without reading the whole report, my --
24 the only explanation I would have based on this is
25 that there's some self-heating going on.

1 Q Okay. And for this self-heating to get to a
2 point where the hot spots, as Dr. Montross labeled
3 them, are at about 85 degrees and the 21-day average
4 ambient temperature is somewhere between 70 and
5 80 degrees, would you not consider that to be pretty
6 significant self-heating?

7 A What was the -- what was the difference in the
8 temperature?

9 Q You can see it on July 13th where the hot
10 spot is somewhere -- looks like about 85 degrees on
11 average, and the ambient air rolling average is under
12 80 degrees. Does that not strike you as significant
13 in terms of analyzing the self-heating going on
14 within the dome?

15 A I would say it's -- yes. It's -- I wouldn't
16 say it strikes me as significant. I think it strikes
17 me as -- that there's -- if the numbers that he's
18 taken are accurate, that that does suggest that there
19 is some self-heating going on.

20 Q I mean, there -- assuming the numbers are
21 accurate, as you've said, and assuming you properly
22 understand how the data is compiled on page 59,
23 there's no other explanation for what's going on in
24 that dome other than self-heating, is there?

25 A Well, there is -- it could be a combination.

1 Self-heating I think would be a part of that, but we
2 do have increase in the ambient temperature, also.
3 So it may be a combination of the two facts.

4 Q Can you explain why the increase in the
5 ambient temperature would apply in a way that in the
6 hot spot the average temperature is 30 degrees hotter
7 than all of the sensors around that hot spot?

8 MR. WIDIS: Object to form.

9 A No, I'm not saying that that's -- that it's
10 30 degrees hotter than them because of the ambient
11 temperature. I'm saying that the two factors, the
12 self-heating and the ambient temperature, are working
13 in concert -- both -- both items are a factor in my
14 opinion.

15 Q Okay.

16 A Not just one completely independent of the
17 other.

18 Q Looking at page 59, you see that the hot spot,
19 as Dr. Montross labeled it, has gone from an average
20 of 45 degrees, thereabout, in March, to an average of
21 65 degrees, thereabout, in June, to an average of
22 about 85 degrees in August.

23 Do you see that?

24 A Yes. You're just -- you're tracking it right
25 up.

1 Q Yes.

2 A You're reading it right off of page 59?

3 Q Correct.

4 A Okay.

5 Q And I will tell you that Dr. Montross
6 concludes in his report that peanuts that were cooled
7 to 40 degrees Fahrenheit on March 11th in a sealed,
8 insulated concrete dome cannot increase in
9 temperature above the 21-day average ambient
10 temperature unless biological heating was occurring.

11 Do you agree with that as well?

12 A I wouldn't disagree with that, I don't think.

13 Q And Dr. Montross also states that there is no
14 other plausible explanation regarding how the hot
15 spot could be significantly warmer than other regions
16 within the dome and the outdoor temperature.

17 Do you agree with that?

18 A Say that one more time.

19 Q He says, other than self-heating, there is no
20 other plausible explanation regarding how the hot
21 spot could be significantly warmer than other regions
22 within the dome and the outdoor temperature.

23 Do you agree with that?

24 A Yes, because he -- read that one more time.

25 He included ambient and the outer regions of the dome

1 at the end of that question, didn't he?

2 Q Correct.

3 A Just read it to me one more time.

4 Q He said apart from self-heating --

5 A Right.

6 Q -- there is no other plausible explanation
7 regarding how the hot spot could be significantly
8 warmer than other regions within the dome and the
9 outdoor temperature.

10 Do you agree?

11 A Yes, with the -- with the caveat of I think
12 those two things work together. The ambient
13 temperature and the self-heating would work together,
14 interrelated.

15 Q Okay. Do you agree that the progression that
16 we see from March to August in what Dr. Montross
17 labels the hot spot -- I'm sorry -- March to July was
18 going to continue progressing after July 13th, 2009
19 if, in fact, self-heating was playing a role in that
20 progression?

21 A No.

22 Q You think it would just stop on July 13th?

23 A It could have stopped at some time shortly
24 after July 13th, yes.

25 Q And what would have led it to stop?

1 A The death of the biological material that's
2 creating the spontaneous -- or sorry. The death of
3 the mold and the microbes that are creating this
4 self-heating.

5 Q Okay. So you're in agreement that there were
6 molds and microbes creating the self-heating that we
7 see evidenced on page 59, correct?

8 A I'll say my understanding and experience is
9 with the stored commodity that it is the mold and the
10 microbes that initiate the biological heating.
11 That's why it's biological.

12 Q And that's, in your opinion, what we see
13 evidenced on page 59 of Dr. Montross's report in the
14 red circle?

15 A Given that this is accurate --

16 Q Yes.

17 A And like I said, I haven't studied his report.
18 So there may be things in his report I don't agree
19 with. But based on the premise of your question, I
20 would say yes, that's self-heating from a
21 biological -- or most likely self-heating from a
22 biological event or biological source.

23 Q You have no way of knowing whether that
24 biological source would have continued to cause
25 self-heating after July 13th, 2009, do you?

1 A Well, I don't know specifically if this hot
2 spot would continue heating, but I do know from my
3 research and reading that the biological activity
4 ceases at a certain temperature.

5 Q At which point thermal runaway can begin,
6 correct?

7 A Not thermal runaway, but the oxidation
8 reaction could then take over, which then could lead
9 to thermal runaway, which then could lead to
10 spontaneous combustion.

11 Q What evidence do you have that would allow you
12 to state to a reasonable degree of scientific
13 certainty that that's not exactly what happened to
14 what Dr. Montross labeled a hot spot subsequent to
15 July 13th, 2009?

16 A There's no evidence to suggest that that's
17 what happened.

18 Q What evidence do you have that it did not
19 happen?

20 A Well, I would point to the -- the statements
21 of the Severn employees who didn't -- with this
22 biological heating, there is normally an odor
23 associated with it. There's a mold or rancid odor
24 associated with that process. And there's the Severn
25 employees that don't report any smells when they were

1 up there applying the protectant. There were the IFC
2 employees who were asked that don't report any
3 mold -- I mean don't report seeing any -- seeing any
4 mold or smelling any smoke or other rancid odors.
5 And there's nothing -- I think they -- I think what
6 they actually said was there's nothing that they
7 observed or saw that would contraindicate the
8 fumigation.

9 And the other issue is that IFC reported the
10 temperature of the commodity at 77 degrees on the day
11 they fumigated it, not 91.

12 And there's also the -- if you look at this
13 data, which may or may not be accurate, there's
14 nothing in these temperatures to suggest that the
15 self-heating is progressing to a thermal runaway.

16 Q Okay. Well, let's take those one by one. You
17 said the Severn employees didn't smell anything
18 consistent with self-heating or biological process.
19 Did I get that right?

20 A Yes.

21 Q You've already told me that as of July 13th,
22 you would agree there was a biological process
23 causing self-heating, correct? You're on record as
24 having said that.

25 A I would agree that that's what this shows.

1 Q Okay. And guess what, Mr. Rich. They were
2 standing atop that dome on July the 1st.

3 A Okay.

4 Q That heating was already taking place as of
5 then, correct?

6 A According to this, yes.

7 Q The fact that they didn't smell it means that
8 they didn't smell a biological process that was
9 already taking place, correct?

10 A That they report not having a smell at the top
11 of the dome. That's -- I can tell you that.

12 Q But page 59 tells us -- assuming it's
13 accurate -- that it was taking place despite the fact
14 they didn't smell it?

15 A Yes. If that's accurate.

16 Q And the same thing could well be true on
17 August the 4th when the IFC applicators were at the
18 top of the dome, as was true on July the 1st. They
19 didn't smell what was happening right beneath them.

20 A I don't know if I agree with that or not
21 because I think they said that they actually put
22 their head inside the dome through the hole. So
23 that's different -- I don't know -- I don't recall if
24 the Severn employees put their head through the -- in
25 other words, when they were applying the protector,

1 were they standing up? Are they up, you know,
2 vertically above the hole or like the IFC employees,
3 who said they put their head through the hole?

4 That, to me, would make a difference on
5 whether you could smell it or not.

6 Q You're not basing your opinion that biological
7 heating or self-heating can be eliminated as a cause
8 of the fire based upon what humans were able to smell
9 on top of that head house, are you?

10 A I'm not saying that self-heating is eliminated
11 as the cause of the fire. I'm saying that
12 self-heating leading to thermal runaway leading to
13 spontaneous combustion was eliminated as a cause of
14 the fire, and one of the factors involved in that was
15 the reported -- the testimony of the people who were
16 on top of the head house.

17 THE VIDEOGRAPHER: Counsel, we need to go off
18 the record, change tapes.

19 This is the end of tape number 4. Time now
20 is 3:02 p.m. We're off the record.

21 (A recess was taken.)

22 THE VIDEOGRAPHER: We're going back on the
23 record, beginning of tape number 5. The time now
24 is 3:15 p.m.

25 Q Mr. Rich, we were going through the reasons

1 why you believe the self-heating process documented
2 by Dr. Montross, with which you agree up to
3 July 13th, 2009, did not get to oxidation and
4 thermal runaway, and we had talked about what the IFC
5 employees smelled on August the 4th or didn't smell
6 on August the 4th. We talked about what the Severn
7 employees smelled or didn't smell on July the 1st.

8 You also mentioned the temperature that was
9 obtained for the commodity itself on August 4th when
10 the IFC applicators were there. Did you mention
11 that?

12 A Yes.

13 And I also have one -- I have a question on
14 Montross's report.

15 Q Okay.

16 A When we were looking at 59 and were talking
17 about what he's identified as the hot spot, those are
18 based -- his -- his temperatures -- what are they
19 based on? Where -- where does the green square, the
20 blue diamond, and the red dot -- where does that
21 number that he's plotted come from?

22 Q Exhibit 197.

23 A But what -- is it an average of all the --

24 Q Average of each of the sensors on the -- that
25 are green, blue, or red. So each of the sensors that

1 are green, blue, or red are averaged from Exhibit 197
2 and put onto the graph that you see on page 59.

3 A And that's for each month?

4 Q Correct. Exactly right. Are we on the same
5 page?

6 A Well, we are. I just -- I'm -- I'm just --
7 I'm a little -- I don't know that the average
8 temperature is going to be -- I mean, I know that's
9 what he's reporting, and I know that's what we're
10 talking about showing. But I don't know how accurate
11 or applicable an average is out of these numbers of
12 sensors, and I haven't gone through his report to
13 see --

14 Q Okay.

15 A -- how he did that.

16 Q Okay.

17 A Did he make some other assumptions or did
18 he -- and as I was reading it while we were on the
19 break, there's a -- he uses a model here of some sort
20 to project additional temperatures.

21 Q Okay. And I will tell you that that model
22 projecting additional temperatures is not until you
23 get to page 68.

24 A Okay.

25 Q So that has nothing to do with page 59, which

1 is taken exclusively --

2 A Okay.

3 Q -- from existing temperatures that are in
4 Exhibit 197.

5 A All right. So just -- I want to just try to
6 be clear, make sure I understand that these are --
7 he's using averages of these sensors, and he's
8 predicting or showing this hot spot based on these
9 averages of the sensors?

10 Q Not predicting but showing.

11 A Or showing. Okay.

12 Q And I'll show you --

13 A But the --

14 Q I will show you Exhibit 68, just so
15 you understand the diff- -- page 68, just so you
16 understand the difference. If you look at page 68,
17 there is a red line that is added in which is his
18 model hot spot. So I think when you were reading,
19 you were reading something about his model hot
20 spot --

21 A Right.

22 Q -- which graphs out through that line what his
23 model projected the hot spot temperature to be from
24 December 1st all the way through August 11th of
25 2009.

Deposition of Lester Rich

1 A Okay. Well, yeah. And I guess what I'm
2 trying to say is if -- if these are the averages,
3 then I agree that if you average them together, this
4 is what he would get. I'm not agreeing with his
5 report or --

6 Q Correct.

7 A -- his conclusions or pretty much anything
8 else other than if he averaged these, that's what
9 this is going to show if he documented this -- you
10 know, grammatical errors or mathematical errors.

11 Q Correct. And so that -- my questions were all
12 based upon the hard data, not predictions, not
13 projections, not models.

14 A Okay.

15 Q Okay?

16 A If that's accurate, then that's what we've
17 got.

18 Q Okay. So you had said why -- despite what we
19 see Dr. Montross saying on page 68 would have
20 continued to happen following July the 13th, which
21 he concludes would have gotten you to the
22 temperatures recorded by the Safe-Grain system on
23 August 11th, 2009, and that's shown on page 68,
24 your conclusion is the opposite, correct, Mr. Rich,
25 that you would not have gotten to temperatures

1 capable of producing ignition, correct?

2 A Where -- I believe the answer is yes, but
3 where on page 68 are you seeing -- where is that
4 projected temperature of ignition?

5 Q I didn't say -- if I said that, I misspoke.
6 He projects temperatures continuing to escalate after
7 July the 13th in the line that heads in the
8 direction of July 13th to August 11th in the red.
9 That's his projection through his model as to what's
10 going to continue to happen with the temperatures
11 after July the 13th.

12 You told me that for ignition to occur, you'd
13 have to get oxidation, oxidation to have to lead to
14 thermal runaway, and you told me a variety of reasons
15 why you know that didn't happen. Correct?

16 A Yes.

17 Q We've been through a couple of those. I
18 wanted to get to the reason you mentioned related to
19 what temperature was recorded in the peanut mass the
20 day of the August 4th fumigation.

21 A Okay. Well, then I think the other -- I can't
22 agree or disagree based on what his model is. I'm
23 not -- I don't know if --

24 Q I agree.

25 A Was that a question or not?

1 Q It's not.

2 A Okay. All right. Because I mean --

3 Q I expect you disagree.

4 A There's a line. I don't know anything more
5 than that right now.

6 Q I expect -- in fact, you have disagreed that
7 the temperatures were going to continue escalating
8 until combustion?

9 A Okay.

10 Q You disagree with that, correct?

11 A Yes.

12 Q And despite the fact that the temperatures had
13 escalated from March to June and June to July in that
14 hot spot, your testimony is they would not have
15 escalated to the point of combustion and did not
16 cause this fire, correct?

17 A Yes.

18 Q And one of the reasons you told me just before
19 we took our break that you believe that's so is
20 because the fumigators from IFC detected
21 temperatures, you said, of 77 degrees in the
22 commodity on August 4th, 2009. Correct?

23 A I believe that's correct, but we have the --
24 I'm sure we can look at it here.

25 Q We're going to. Exhibit 4 -- I'm sorry -- 23.

1 Is this what you were referring to when you said that
2 the IFC applicators measured the temperature and they
3 got a temperature -- I think you said 77. It shows
4 here 75 degrees.

5 A Is this for -- yeah, August 4th. Yes, this
6 is what I was referring to.

7 Q Okay. You believe that the IFC fumigators
8 actually used a thermometer of some sort to measure
9 that temperature. Is that your understanding?

10 A That -- I don't know. My understanding is
11 from the deposition that that is the temperature that
12 they recorded, both an interior -- I mean, it's twice
13 on here. It's a commodity temperature, an interior
14 temperature, an exterior temperature, an exterior
15 humidity, and then the two dash lines. I mean, it's
16 my understanding that this is accurate -- this is an
17 accurate document.

18 Q You reviewed Mr. Turner's deposition, did you
19 not?

20 A Yes.

21 (Exhibit No. 199 was marked for
22 identification.)

23 Q Go ahead and take a look at Exhibit 199, which
24 is page 228 from Mr. Turner's deposition. He was
25 asked on line 7, did you check the temperature inside

1 the dome prior to the August 4th, 2009 fumigation?

2 Answer: I didn't check it myself.

3 Question: All right. Where did you get the
4 number that's on your service report?

5 Answer: RP Watson provided it for me.

6 Question: But you didn't check any
7 temperature yourself?

8 Answer: No.

9 Were you not aware of that testimony,
10 Mr. Rich?

11 A I was not aware of that testimony.

12 Q I'll show you what we're marking as
13 Exhibit 200.

14 (Exhibit No. 200 was marked for
15 identification.)

16 MR. GOLDSTEIN: Excuse me. What was 199?

17 THE WITNESS: That page.

18 MR. GOLDSTEIN: I'm sorry. Okay.

19 Q Did you review Mr. Watson's Volume 1
20 transcript, Mr. Rich?

21 A Yes.

22 Q Okay. Look at page 252. Mr. Watson was
23 asked, do you ever remember having a conversation
24 with Randy Turner prior to the time he or a crew from
25 IFC came to do a fumigation where he would ask you,

1 RP, what's the temperature of the peanuts?

2 Answer: I never recall having that being
3 asked.

4 Question: Are you certain that conversation
5 never occurred in relation to any fumigations IFC
6 performed in the peanut dome?

7 Answer: I'm certain.

8 Having reviewed Mr. Turner's testimony and
9 Mr. Watson's testimony, do you still feel comfortable
10 relying on the commodity temperature in Exhibit 23 to
11 support your conclusion that the commodity did not
12 have a temperature that was escalating as of that
13 date?

14 A I don't -- I can't -- I mean, they're saying
15 two different things. So you have the document, and
16 it was prepared by Randy Turner. He wrote down these
17 temperatures. One person is saying one thing and one
18 person is saying the other. They're both under oath.
19 I can't make a determination of that other than
20 what's here.

21 Q So even though he said he didn't measure the
22 temperature and he got the temperature from a person
23 who says didn't give it to him, you're going to rely
24 on the 75 degrees to support your conclusion that the
25 self-heating process that you described a moment ago

1 had come to conclusion?

2 MR. WIDIS: Object to form.

3 A It's one piece of the information.

4 Q So you're willing to rely on that 75 degrees
5 in Exhibit 23 to support your conclusion eliminating
6 self-heating as a possible cause of the fire?

7 A I'm willing to consider this as one point of
8 the data. Yes.

9 Q Okay. Well, what else do you have at this
10 point to convince a jury that the self-heating
11 process that you testified to a moment ago occurring
12 from biological activity within the peanut dome had
13 stopped in time so that the fire that occurred in
14 August of 2009 was not related to that self-heating
15 process?

16 MR. WIDIS: Object to form.

17 A Well, the -- well, the information that I
18 would rely on goes back to what I say in my report.
19 There's -- there's basically -- there's basically
20 four data points that can be used in addition --
21 working with the spontaneous combustion hypothesis.
22 The witness statements, the recorded IFC temperature,
23 the temperatures recorded by the in-house
24 thermocouple system, if it's reliable, and the -- and
25 I would say the fire dynamics of the smoldering fire.

1 So of those things, we've talked about the
2 witnesses not reporting any odors, we've talked about
3 this temperature, we've got temperatures that are
4 being recorded that show or suggest some self-heating
5 could be taking place in conjunction with the ambient
6 temperature.

7 And again, if Montross is using an average
8 ambient temperature, there could be an issue. If
9 it's a really hot day and then it's a cool day, that
10 could change, too. So we don't know -- I mean, we
11 know the ambient temperature for a day, so you could
12 put that instead of an average. We could look at
13 that.

14 But those -- those things would be what I --
15 or those are the items that I relied upon or looked
16 at to test this hypothesis of self-heating leading to
17 thermal runaway leading to spontaneous combustion.

18 Q You also relied on the NFPA Handbook,
19 17th Edition, when listing materials subject to
20 spontaneous heating, listing shelled peanuts as very
21 slight or negligible. You relied on that, too,
22 didn't you?

23 A Both shelled and unshelled. I included that
24 just because they're both peanuts. And we do have
25 broken peanuts in there, so there are some -- even

1 though it's farmers stock, we know that they break.
2 They come apart. There's also foreign material.

3 Q Do you remember looking at the peanuts that we
4 looked at a while ago on your timeline?

5 A Right.

6 Q How many of those were shelled peanuts, sir?

7 A They weren't shelled, but there are kernels
8 outside of the shell just because the nature of the
9 loading and unloading and it being farmers stock.

10 Q The reference in the NFPA handbook and in the
11 JT Mill Spoilage and Heating of Stored Agricultural
12 Commodities to the risk of fire associated with
13 peanuts, sir, is to shelled peanuts, correct?

14 A I believe you're correct. I don't think
15 Mills -- I don't think Mills -- I think there's two
16 separations in Mills. There's shelled, and then
17 there's peanuts. There's also a red skin.

18 Q Without marking this as an exhibit, since it's
19 so long -- it's in color -- just go ahead and look at
20 Mills publication, page 11.

21 When he's talking about the tendency to
22 self-heat, is he talking about shelled or unshelled?

23 A This is -- this isn't the chart I was thinking
24 about when you said that. Here Mills is talking
25 about peanuts shelled, yes. He has them listed as

1 very slight.

2 Q And you've already agreed that if the
3 temperatures recorded in Exhibit 197 are accurate, we
4 know there was self-heating going on in the peanut
5 dome, correct?

6 A I'm agreeing that's what Montross's chart
7 shows.

8 Q Okay. And that -- despite what you say about
9 moisture content at the bottom of page 11, it would
10 have to be the moisture content of those peanuts that
11 led to that self-heating, correct?

12 A I'm sorry?

13 Q Despite what you say about the moisture
14 content at the bottom of page 11 of the peanuts that
15 went into the dome, the only way you could have had
16 that self-heating going on inside the dome was
17 because of excess moisture, correct?

18 MR. WIDIS: Object to form.

19 A Well, I don't know that I can agree with you
20 that it was excess moisture. I would agree -- or to
21 me it would be that yes, there were -- it's the --
22 you're right -- half the question. I agree that the
23 moisture is what drives the mold and the biological
24 heat.

25 Q Right. And it was the moisture that drove

1 mold and biological heating in this dome if the
2 temperatures in Exhibit 197 are accurate and
3 Dr. Montross accurately captured that on his chart,
4 correct?

5 A In conjunction with any effect the ambient
6 temperature would have had.

7 Q Okay. I didn't see any reference in your
8 report, Mr. Rich, to the soldiers that RP Watson
9 talked about. Is there a reason you decided not to
10 reference those soldiers in your report?

11 A I'm familiar with what you're talking about,
12 but no, not particularly.

13 Q Did you find the soldiers that he was talking
14 about germane to the topic of whether self-heating
15 played a role in this fire?

16 A Some of the literature does discuss that, and
17 it may have been in one of the reports that you
18 provided that I perused that discusses that. I
19 remember RP talking about that and relating it --
20 it's a combination of the method of loading, what
21 they call the fines, the dirt, and that sort of thing
22 that stays in the peanut pile -- I'm sorry -- in the
23 peanut pile as a result of top loading.

24 Q Did you analyze in any form or fashion whether
25 those soldiers had anything to do with excess

1 moisture?

2 A I don't know that for certain, but there is --
3 and again, it could be from one of your experts'
4 reports, and I'm not -- I don't know if I agree with
5 it or if it's accurate. But I have read that there
6 can be moisture associated with the soldier, but I
7 think it was from one of --

8 Q Does that concept make sense to you?

9 A In general, yes, but I also say that would
10 be -- it's got to be more than the moisture. I think
11 it would deal with the dirt, the dust, the leaves,
12 the twigs. I don't think it's just -- I don't think
13 it would be just moisture. I think it's a
14 combination.

15 Q And all those things that you just mentioned
16 in combination, does that sound like a recipe for
17 self-heating?

18 MR. WIDIS: Object to form.

19 A I don't agree that it's a recipe for
20 self-heating, but it's -- self-heating could occur
21 under those conditions. I don't think it's
22 guaranteed.

23 Q Page 12, at the top -- and we're back to your
24 report. I'm sorry it's taking us a while to get back
25 there.

1 You state that because none of the peanuts
2 removed in previous years exhibited any signs of
3 self-heating, it is unlikely that self-heating, if
4 any, as a result of organic decomposition in the
5 stored peanuts was sufficient to cause the fire.

6 Right?

7 A I was on the wrong page. I'm sorry. I'm with
8 you now.

9 Q It's at the end of the first paragraph.

10 A After the portion about JLA?

11 Q Uh-huh. And it's after you talked about the
12 prior years that they had not lost any product to
13 mold contamination or aflatoxin nor any of the
14 peanuts removed during the prior years exhibited
15 signs of self-heating, and so you say, therefore, I'm
16 discounting the possibility that organic
17 decomposition in stored peanuts would have been
18 sufficient to sustain to lead to thermal runaway.

19 Right?

20 A I didn't say discounting. I said it's
21 unlikely that self-heating would have occurred.

22 Q None of the fumigations in any of the prior
23 years had caused a fire, either, correct?

24 A Yes. That's absolutely right, that we know
25 of.

1 Q And yet you concluded that a fire was caused
2 by the fumigation on August 4th, 2009, correct?

3 A Yes, sir.

4 Q Just because something didn't happen in prior
5 years doesn't mean it didn't happen in the year
6 you're looking at, correct?

7 A Well, yes. And that's the -- I mean, that
8 kind of gets back to what you were asking earlier
9 about the Fumitoxin. If you did an experiment and it
10 didn't happen there, it doesn't mean it won't happen
11 in the real world.

12 Q But you're actually pointing to the lack of
13 self-heating in prior years as a basis to conclude,
14 well, that's not an explanation for the fire in 2009?

15 A No, I'm not using that as a basis to conclude
16 it. I'm pointing to that as an example to say that
17 the -- there hasn't been -- in the peanuts they've
18 pulled out, they haven't had these issues previously.
19 And in my mind, if I had had those issues previously,
20 that would be something I'd want to know about and
21 consider, because if I've had moldy peanuts come out
22 before or I've had a pocket of peanuts that I
23 couldn't use because they were all brown and
24 self-heated from some prior loading of the dome, that
25 would be important to me as a fire investigator to

1 know.

2 Q There was a mass of 21 million pounds of
3 peanuts stored in the dome, correct?

4 A Yes, sir, I think that's the approximate
5 weight.

6 Q And there were 19 temperature cables that ran
7 through those peanuts, right?

8 A Yes.

9 Q Would you agree with me that those temperature
10 sensors on those cables covered only a small fraction
11 of the 21 million pounds of peanuts?

12 A I would say, to answer that, I would have to
13 go back and let's refer to Chant's deposition because
14 I believe that he discusses and talks about what his
15 thoughts are on how much of that area was covered.
16 And I remember about -- there's a vertical cone
17 associated with the dimensions of each one.

18 So I couldn't agree with you that it's a very
19 small percentage, but I would certainly agree that
20 it's not the entire dome.

21 Q There are certainly peanuts in the peanut mass
22 that the temperature cables were not detecting the
23 temperature of, correct?

24 A I would expect so, yes.

25 Q All right. And would you therefore agree with

1 me that the temperatures recorded on July 13, 2009
2 prior to the fumigation in question probably did not
3 record the hottest temperatures inside of the peanut
4 mass?

5 A I don't know that. They could have.

6 Q Okay. And it's also possible that they
7 didn't, correct?

8 A It is possible they didn't. Yes.

9 Q It's possible there were temperatures in that
10 peanut mass that exceeded 100 degrees as of
11 July 13th, 2009, correct?

12 A I don't know. I can only say what's here.
13 And it's possible.

14 Q Assume for a moment that it is demonstrated to
15 your satisfaction that the aluminum phosphide tablets
16 applied on August 4th, 2009 had nothing whatsoever
17 to do with the fire. Just assume that for the sake
18 of argument. Are you with me?

19 A Okay.

20 Q Assuming that were true, what would be the
21 most likely explanation for the cause of this fire
22 based upon everything that you know?

23 A The -- one of my other -- well, the most
24 likely would be one of my -- the likely ones would be
25 one of my other hypotheses that I eliminated, and I

1 would say the most likely would be that the
2 self-heating progressed to thermal runaway,
3 progressed to spontaneous combustion.

4 Just not to be taken out of context, that
5 answer is based on your assumption and not the facts
6 as we've been discussing them today.

7 Q All right. Back to your report, you say --
8 I'm looking for exactly where you say it. You say
9 all of the available temperature -- all the available
10 data pertaining to temperature measurements prior to
11 discovery of the fire are well below the expected
12 ignition temperatures for ordinary combustibles,
13 including farmers stock peanuts. I'm trying to find
14 exactly where you said that. Oh, it's at the top of
15 page 13. Second sentence, top of page 13.

16 A Okay.

17 Q First of all, we know that the ignition
18 temperature of farmers stock peanuts had been
19 obtained as of August -- well, let me ask you, are
20 you talking about temperature measurements before
21 August 11th when you say prior to discovery of the
22 fire?

23 Maybe I'm just misunderstanding you. Is that
24 the temperature up to July 13th, 2009 that you're
25 referring to there?

1 A That would be -- yeah, that -- I didn't --
2 apparently I didn't write that very clear, but yes,
3 that's what I'm suggest- -- all of the available data
4 would be this data, which is Exhibit 197 --

5 Q Okay.

6 A -- up to --

7 Q July 13th?

8 A Yes. Yes.

9 Q Okay.

10 A Or I guess up to August the 11th, but
11 July 13th is part of 197.

12 Q Okay.

13 A I think that's correct.

14 Q It's also true that the temperatures recorded
15 on August 11th are not temperatures sufficient to
16 ignite peanuts. Would you agree with that?

17 A I don't know that because the sensors that we
18 previously discussed, 1, 3, and 13, are not --
19 they're maxed out, and the temperatures could be
20 higher or they could be damaged. So -- and there's
21 not even values for number 3. So I don't know if
22 that's 230 or less.

23 Q What I'm saying is the temperatures that we
24 see on the August 11th, 2009 chart in
25 Exhibit 190 --

1 A You're on 196?

2 Q 196. None of those temperatures, throwing out
3 the 230s as being invalid, are capable of causing
4 ignition of the farmers stock peanuts, correct?

5 A That's correct. None of them are capable of
6 causing ignition. But I don't think you can
7 arbitrarily throw out the 1, 3, 13, 230s that were
8 previously giving us temperatures that now are not.
9 I don't agree that you could just -- that you can
10 dismiss those, because we don't know what those
11 temperatures are.

12 Q You used Safe-Grain monitoring temperatures at
13 the top of page 13 to say, well, because we don't
14 have any temperatures reaching the level of the
15 ignition temperature of farmers stock peanuts as of
16 July 13th, 2009, well, we therefore didn't reach
17 the ignition temperature of farmers stock peanuts
18 prior to the fumigation?

19 A Right. There's no evidence to support that we
20 reached the ignition temperature of the peanuts prior
21 to the fumigation.

22 Q Because the Safe-Grain temperature monitoring
23 system isn't capable of producing evidence showing
24 the ignition temperature of farmers stock peanuts
25 being reached. It's just not possible, is it?

1 A Well, there's -- in that particular instance,
2 yes, you're right. It maxes out at 230 is my
3 understanding. So that's correct. But there's
4 also -- but the temperature of the Safe-Grain data,
5 one, is questionable and, two, is a component of what
6 I'm talking about in my testing elimination of the
7 hypothesis of self-heating or spontaneous combustion.
8 Sorry. I didn't want to give the impression that
9 this is the --

10 Q Understood.

11 A -- that's the only thing.

12 Q In the second paragraph on page 13, you state
13 that the August 11th, 2009 temperature readings
14 still record temperatures inside the stored commodity
15 in the range of 56 to 208 degrees, well below the
16 expected ignition temperature of peanuts, correct?

17 A Yes, sir.

18 Q I'm missing you there. What point are you
19 trying to make?

20 A The point I'm trying to make is that if -- I
21 guess similar to what Dr. Montross did. If you look
22 at the peanuts -- the temperatures off of this data
23 below the pile, in the pile, we haven't reached --
24 there's no temperatures here that suggest we've
25 reached the ignition temperature inside the pile.

1 This is an average of -- the 56 to 208 is a range, I
2 guess is what I'm saying.

3 Q But you just said a moment ago because there
4 are sensors that are knocked out, and because we know
5 that there's ignition, we know that we have
6 temperatures that exceed the ignition temperatures of
7 farmers stock peanuts as of August 11, 2009, correct?

8 A Yes, but we don't know where in the dome
9 that's occurring. I mean, I don't -- I'm sorry.
10 Say --

11 Q Right. We don't know where on August 11th,
12 2009, the ignition temperature of the farmers stock
13 peanuts had been reached, do we?

14 A We don't, but we can look at the data that's
15 subsurface here and see we haven't reached it there
16 because they're still giving accurate readings. And
17 we have two points that were giving readings that are
18 not giving readings.

19 Q And we could, in fact, have had temperatures
20 in excess of the ignition temperature of the peanuts
21 anywhere along those temperature cables, whether it
22 was at the top, the middle, or the bottom of the
23 dome, correct?

24 A Yes.

25 Q All right. Page 14, you state that there

1 was -- first -- second paragraph, first sentence,
2 that there was no indication of self-sustained
3 smoldering. No indication of self-sustained
4 smoldering was reached in the commodity.

5 That's what it says, correct?

6 A No -- yes, sir.

7 Q What is your basis for that statement?

8 A My basis for that statement is pretty much
9 everything we've been talking about. I mean, it's
10 the -- it's the -- all of this information about
11 spontaneous heating, the temperatures, the witnesses,
12 the recorded temperatures, and that there's -- and I
13 didn't say there's no -- well, yeah, that's -- I
14 guess that's the answer to your question.

15 Q Are you putting a time frame on that
16 statement? Maybe that's what I'm missing. There's
17 no indication of self-sustained smoldering. Are you
18 limiting that to a period of time?

19 Let me ask it a different way.

20 A I might be, but ask it a different way. I'm
21 not sure.

22 Q When you arrived at the Severn Peanut Company
23 on August 13th, 2009 --

24 A Right.

25 Q -- and you first were introduced to the dome,

1 the fire that was going on inside of that dome at
2 that time was a self-sustained smoldering fire, was
3 it not?

4 A Yes.

5 Q Okay. That's why I'm not understanding --

6 A Right. Now --

7 Q -- when you say there's no indication --

8 A Okay.

9 Q -- of a self-sustained smoldering fire.

10 A I understand your confusion. Give me one
11 second. Let me read where we are.

12 I will concede that that paragraph would read
13 better if that sentence were moved to the bottom
14 because it is -- what -- when I read all that
15 together, I'm -- you're right. There is
16 self-sustained smoldering combustion taking place on
17 August the 11th.

18 Q Uh-huh.

19 A So that is -- is probably sort of misplaced
20 there.

21 Q Okay.

22 A I can see how that would be confusing.

23 Q So you were trying to say prior to the
24 fumigation, there was no evidence of a self-sustained
25 smoldering fire?

1 A Correct.

2 Q But a self-sustained smoldering fire could
3 have been the result of the self-heating process that
4 preceded the fumigation and eventually turned into
5 that fire subsequent to the fumigation; isn't that
6 possible?

7 A Okay. I was with you up to subsequent.

8 Q Sure.

9 A If you ask that one more --

10 Q I'll break it apart. I'll break it apart. As
11 of August 4th, 2009, the IFC fumigators did not
12 observe any smoldering fire taking place when they
13 were in the head house at the dome, correct?

14 A Yes, sir.

15 Q And yet it is possible that a self-sustained
16 smoldering fire could have developed between
17 August 4th and August 11th that was the result of
18 the self-heating that preceded August the 4th, true?

19 A I don't think I can agree with that because
20 there's a time lapse necessary from that transition
21 from self-heating to the oxidation to the thermal
22 runaway to the ignition --

23 Q Uh-huh.

24 A -- that's a -- that occurs over an extended
25 period of time or over a given period of time, and I

1 don't -- I can't agree with that because I don't know
2 if that's a sufficient amount of time for those
3 processes to take place.

4 Q Well, couldn't the oxidation have occurred
5 somewhere between July 13th and August the 4th?

6 A It's possible it could have. If it went that
7 far. If -- in other words, when the biological
8 heating reached a temperature -- which I believe is
9 around 120 degrees -- where the biological mold dies
10 off, it will just stop and nothing else will happen.
11 So that's why I can't answer that, because it's
12 possible -- it's just as possible that it stopped as
13 that it kept going.

14 Q Understood. But the fact that there was no
15 self-sustained smoldering fire on August the 4th
16 doesn't preclude the possibility that one developed
17 subsequent to August the 4th having nothing to do
18 with the fumigation. That is a possibility, is it
19 not?

20 A It's a possibility, but I don't agree with
21 that.

22 Q Okay. Understood. And if, in fact, there was
23 a fire in the peanut dome that resulted from the
24 self-heating that we've talked about, that would be
25 the signature of that fire, a self-sustained

1 smoldering fire, correct?

2 A I don't know if signature is the right word,
3 but I would say that a fire that results in a
4 commodity or biological mass from self-heating,
5 thermal runaway, that is a smoldering fire.

6 Q Okay. And the fire that you encountered on
7 August the 13th and the fire that continued at
8 least through August 27th was and continued to be a
9 smoldering fire, correct?

10 A I would agree with that in that the -- the
11 information, the witnesses, and the data do not
12 suggest that the fire inside the dome was a
13 free-burning fire, and nor -- as we talked about
14 earlier, the geometry of the dome, the
15 configuration -- the fact the dome was sealed, the
16 fact that we did have the inerting agents being
17 released, we have a very -- we have an oxygen
18 suppressed or oxygen-decreased atmosphere, and that
19 situation is going to lend itself to a smoldering
20 fire because there's not sufficient oxygen there for
21 the flaming combustion to take place.

22 Q Okay. A smoldering fire does not rule out
23 self-heating being its cause, correct?

24 A Well --

25 Q I'm just talking in the abstract.

1 A I was going to say, in the abstract, a -- a
2 fire from the result of -- well, I will agree
3 depending on where the smoldering is taking place.
4 Okay. So for example, linseed oil in a trash can.
5 That's going to be initially a smoldering fire.
6 That's what the -- the oxidation reaction of linseed
7 oil.

8 But since it's here in the air, it will
9 quickly transition to a flaming combustion if there's
10 flammable air. So -- and like in a sawdust pile or
11 something, you still have the same thing. It's out
12 in the air, and so you get that transition from the
13 original smoldering fire, which I think is what
14 you're talking about. As the fire works its way
15 through the pile, it breaks out or whatever happens,
16 and you get the flaming combustion.

17 In this -- with this particular set of facts,
18 I wouldn't agree that you're going to get the flaming
19 combustion. I think you're going to be stuck with
20 the smoldering fire simply because of the --

21 Q Lack of oxygen?

22 A -- the lack of oxygen and the dynamics of the
23 building and the dome.

24 Q You would not have expected the IFC employees
25 on August 4th to detect odors associated with

1 combustion if the fire first developed subsequent to
2 August 4th? Would you agree with that?

3 A I would not -- if -- okay. I would not expect
4 them to smell smoke if the fire happened after they
5 were there. I would expect if they put their heads
6 inside the dome and there was biological -- the -- if
7 there was self-heating going on as a result of
8 biological activity and the mold, I would expect that
9 they would have smelled something to that effect.

10 Q If the mold and biological activity within the
11 dome causing self-heating was 50 or so feet below the
12 surface of the peanut pile, would you expect those
13 odors to penetrate all the way up into the head
14 house?

15 A I would. The literature suggests that yes,
16 those odors do migrate, and if you consider the
17 configuration of the peanut -- I mean, as we've
18 talked about, there is some air space associated with
19 that. They're kind of fluffy, I guess, for lack of a
20 better word, because the way that they land. And so
21 there is -- and it's the whole point of the fans.
22 You can draw air through the peanuts. So there is
23 some migration -- I guess would be the right word --
24 or diffusion of the air up through the pile.

25 Q Okay. On page 15 of your report, you conclude

1 that the only remaining valid hypothesis as to the
2 cause of the Severn dome fire is the autoignition of
3 phosphene gas, correct?

4 A Yes. And I go ahead and add, likely in
5 combination with the diphosphenes.

6 Q And because you say, likely in combination
7 with diphosphene, if the jury should in this case
8 find that there was no combination with diphosphene,
9 you would not be able to say that the fire in the
10 Severn dome was caused by the aluminum phosphide
11 tablets, would you?

12 A I disagree with that.

13 Q You said, likely in combination with
14 diphosphene. That's your conclusion, is that there
15 is a more than 50 percent chance that diphosphene was
16 part of the reaction that led to fire, correct?

17 A I would say it's likely. I don't know if
18 likely is more than 50 percent, but it's likely
19 and -- it is likely, although it is not necessary.

20 Q So absent diphosphene, your conclusion would
21 be exactly the same?

22 A Yes. What the -- what the diphosphene does is
23 mix with the phosphene to lower its autoignition
24 temperature.

25 Q Can you point to any study, analysis, or

1 testing that supports the notion that the aluminum
2 phosphide tablets applied by IFC on August 4th
3 produced diphosphene?

4 A I point to their applicator manual which says
5 and cautions against opening the flask and the flask
6 will flash upon opening. That is because there are
7 some diphosphenes present in that material because
8 it's above -- it's -- the flask at ambient
9 temperature is below the autoignition temperature of
10 the phosphene.

11 Q Going forward to the third paragraph, you talk
12 about -- and we've already discussed this -- the
13 irregular surface of the commodity with varying
14 slopes. We talked about your basis for that
15 statement.

16 Is there any deponent in this case who has
17 provided testimony who testified about visualizing
18 the entire surface of the peanut pile that existed in
19 the dome as of August 4th, 2009?

20 A Is there anyone who's testified about
21 seeing --

22 Q The entire surface.

23 A -- the whole surface?

24 Q Yes.

25 A Not to my knowledge.

1 Q In fact, it wasn't possible for anyone to
2 visualize the entire surface of the peanut pile from
3 the head house, was it?

4 A I would say no. I think the USDA inspector --
5 he hasn't been deposed, but I talked to him. I think
6 he had -- I mean, he had a -- he probably had a
7 better chance, I guess would be the way to say that,
8 to view more of the pile than the IFC employees, but
9 I don't know that he's been -- to my knowledge, he
10 hasn't been deposed.

11 So the answer to your question would be no, I
12 believe, that -- I don't know of a despondent --
13 sorry.

14 Q Deponent?

15 A -- a deponent who has seen the entire surface
16 of the pile. That's correct.

17 Q Have you ever seen any pictures of the peanut
18 pile?

19 A Yes.

20 Q I'll show you what's been marked --

21 A I think they were pictures of the peanut pile.

22 Q -- as Exhibit 7.

23 A Yes.

24 Q Have you seen Exhibit 7 before?

25 A Yes, sir.

1 Q Do you see in Exhibit 7 a -- an irregular and
2 varied slope?

3 A I do.

4 Q Where?

5 A Well, the side of the soldier coming towards
6 you, across the top, down the right side.

7 Q All right. And on the sides of the soldier,
8 would you view that as an irregular and varied slope
9 or a fairly smooth slope?

10 A I can't say from this photo. I would say -- I
11 mean, it looks to me like there are shadows here and
12 here, which might indicate like a crease or a groove
13 or a cleavage of some sort. It looks like there
14 might be some here plus this layering of the peanuts.
15 They're banding, I guess. Here kind of to me looks
16 irregular, also. But certainly up here I would say
17 this is an irregular slope with valleys and --

18 Q And is what you see in Exhibit 7 something
19 which would likely increase the risk of piling and
20 collecting Fumitoxin tablets?

21 A Not the way it sits here. I think the tablets
22 would fall off the side.

23 Q So what you see here is not going to collect
24 piles of Fumitoxin tablets?

25 A Not the way it sits here. But I would go back

1 to what I said earlier. This photograph of the top
2 with the irregular surface and the -- I mean, there
3 are pockets and whatever in here. Now, if you're
4 dropping -- I mean, I don't know I can answer that
5 from what you're saying. If you put a ring around
6 here or you slope peanuts off the side of this
7 soldier, then yeah, I think the top would encourage
8 piling and collection. If you cover it all the way
9 up, maybe not. If you dump them on it the way it is,
10 they're going to fall off the side all the way to the
11 floor.

12 So I don't know if I can give you that answer
13 more than that from this picture.

14 Q Did you review the testimony of Randy Turner
15 and Brian Lilley as to how they applied the tablets?

16 A Yes, sir.

17 Q How did they testify that they applied the
18 tablets?

19 A I would want to go back, and let's look at
20 what they testified to.

21 Q Okay.

22 (Exhibit No. 201 and Exhibit No. 202 were
23 marked for identification.)

24 Q Have you had a chance to look at page 174 of
25 Mr. Turner's deposition testimony and pages 88 and 89

1 of Mr. Lilley's deposition testimony?

2 A Yes.

3 Q Would you agree with me that both of them
4 testified to looking at the pile after their
5 application was complete and seeing that the tablets
6 were distributed across the peanut pile without
7 piles?

8 A In the areas they could see, yes.

9 Q Okay. Do you credit their testimony or do you
10 discredit their testimony, Mr. Rich?

11 A I don't know how to answer that. I mean,
12 that's their testimony.

13 Q Well, is your opinion in this case consistent
14 or inconsistent with their testimony?

15 A Well, in that they can't see the whole pile,
16 it would be consistent with it.

17 Q So you would accept their testimony that, as
18 far as they were able to see, there, in fact, were no
19 piles of Fumitoxin tablets within the dome after
20 their application was complete?

21 A As -- as we discussed earlier, I mean, this is
22 their sworn statement, so I can't -- I wouldn't
23 disagree with that as to what they could see. No,
24 sir.

25 Q So based upon their testimony and you not

1 disagreeing with it, the point of origin of this
2 fire, in your opinion, had to be in a location that
3 they could not see on August 4th, 2009; is that
4 correct?

5 A If this is accurate, yes.

6 Q And I hear you saying you're crediting their
7 testimony and accepting it as accurate for purposes
8 of this case. Correct?

9 A I -- I can't disagree with what they're
10 saying. I mean, I don't have a -- yes, I guess I am.
11 I can't -- I can't disagree with it.

12 Q Okay. So if there was a flat spot at the
13 center of the pile that you've testified about
14 earlier, you would now agree that the fire did not
15 begin there because obviously Mr. Turner and
16 Mr. Lilley were able to view that being directly
17 above it, correct?

18 A If this is -- again, if this is accurate and
19 what they're seeing -- he says that he -- let me look
20 at what he says. He says he felt like it was not
21 piling up, and then he goes on -- I'm sorry. This
22 is -- I'm sorry. This is Lilley first. Let's see
23 what he says on this page.

24 All right. He says that he could hear them
25 rolling down the peanuts a little ways. He felt it

1 was not piling up. And then he says, in line 7 and
2 8, we didn't see anything piled up, but I know there
3 were some areas where I couldn't see -- or I'm
4 sorry -- where we couldn't see.

5 And then he talks about the flask.
6 Somewhere -- oh, he says that -- and then you're
7 correct. On line 23, 25 -- I don't know if that line
8 of questioning continued, but it says you didn't see
9 any piling in that little area that you could see?

10 And he said, that's -- he said, yes, sir.

11 And so then -- this is Turner.

12 Q Turner, on lines 18, 19, said --

13 A 18 and 19. Right. Yes, sir.

14 Q I could see that the tablets had been
15 scattered. They were all across the peanuts.

16 Right?

17 A Right.

18 And then they say, how much could you see?

19 And he said he could see a lot of it but he
20 couldn't see all the way to the walls.

21 So it sounds like that he could see maybe a
22 little more than Lilley, but that's kind of
23 subjective because --

24 Q But you'd agree with me, if you accept their
25 testimony, any flat spot at the center of the peanut

1 pile could be eliminated as the point of origin of
2 the fire?

3 A I would agree with you that these -- that
4 their depositions suggest that there wasn't -- that
5 there were no -- that there was not a pile on the
6 flat spot that they could see directly below them.

7 Q Okay. These were the last two individuals to
8 look inside the dome before the fire was discovered,
9 correct?

10 A That is my understanding.

11 Q Are there any eyewitnesses in this case who
12 came forward to testify as to actually seeing the
13 distribution of the tablets on the surface of the
14 peanut pile other than Brian Lilley and Randy Turner?

15 A I believe there was one other person up there
16 with them during the application, but -- where's that
17 fumigation report? I don't know if they've been
18 deposed, but the exhibit we previously mentioned.
19 Exhibit Number 23 lists Randy, Brian, Lucas, and
20 James --

21 Q Right.

22 A -- as individuals involved in the fumigation.

23 Q And I'll tell you they have not been deposed.

24 A Okay. And so I don't know if there's other
25 people who may have seen the pile after them.

1 Q You are unaware of any person who professes to
2 have seen on top of that pile on August 4th, 2009
3 anything different than what is described in the
4 depositions of Randy Turner and Brian Lilley,
5 correct?

6 A Yes, sir.

7 Q All right. And you concluded that despite
8 what Randy Turner and Brian Lilley say, there were,
9 in fact, piles of Fumitoxin somewhere on the surface
10 of that peanut pile after they were done with their
11 application, correct?

12 A Yes.

13 Q They dropped those tablets from 20 to 25 feet
14 above the -- a sloped surface, correct?

15 A Yes, sir. That's the -- well, flat and then
16 sloping off.

17 Q We've eliminated the flat spot based upon
18 their testimony, correct, if you accept --

19 A But they dropped them from -- I mean, you said
20 to a sloped surface, but there is a flat surface
21 involved.

22 Q Putting aside that flat surface, on the sides
23 of that flat surface, you have slopes, correct?

24 A Yes.

25 Q And they were dropping the tablets from 20 to

1 25 feet above, correct?

2 A I believe that was their testimony. Yes, sir.

3 Q Doesn't gravity play a role in the
4 distribution of those tablets from that point?

5 A I would expect that it would.

6 Q Doesn't the angle of repose play a role in the
7 distribution of those tablets from that point?

8 A The angle of repose?

9 Q Yes.

10 A Of the peanuts?

11 Q The peanuts.

12 A Well, yes. That's particularly in relation to
13 any valleys or how the peanuts had sorted themselves
14 out inside the dome.

15 Q And you've done no testing and no research
16 that supports your conclusion that the method of
17 their application would have resulted in piles of the
18 tablets somewhere along the slope -- somewhere along
19 the surface of the peanut pile?

20 A Well, there's one other thing that would limit
21 or affect -- before I -- well, I'll answer your
22 question. I'm sorry. I should do that before I go
23 on. But no, I have not done any physical testing --

24 Q Okay.

25 A -- to that effect.

1 But there's another item that I think also
2 would play in addition to what you listed, gravity
3 and the slope. The other issue is physically Turner
4 and Lilley throwing the flask. And the reason I
5 think that's important is because the distribution --
6 in other words, it was my understanding they held the
7 flask and shook the tablets out of it. That's going
8 to limit the distribution of those tablets to what
9 they can do with their arms.

10 Q Uh-huh.

11 A So if they're on opposite sides and they're
12 both shaking them like this, we can have overlap. If
13 they're shaking them in opposite directions -- but
14 that's another factor that I think is important, that
15 the actual breadth and scope and swath of the
16 distribution is, in fact, partially limited by their
17 physical ability and the tablets coming out of the
18 actual flask.

19 Q But assisted by the drop --

20 A Yes.

21 Q -- gravity, and the slope?

22 A Right. But we left out the human component,
23 which I don't think you can do. I would lump that in
24 with the other two that you mentioned -- or three.

25 Q Don't you think it's just a little bit

1 speculative, in view of their testimony, in view of
2 the vertical drop, in view of the slope, in view of
3 gravity, to make a conclusion that they must have had
4 piles of these tablets resulting from their
5 application?

6 A No.

7 Q You don't think that's speculative at all?

8 A No.

9 Q So if that's true and this was the third time
10 the peanut dome had been fumigated in this way, then
11 I guess it would be your testimony that on those
12 other occasions, there were piles of Fumitoxin
13 tablets as well, correct?

14 A It's possible, yes.

15 Q Well, based upon your testimony, it's not
16 possible, it's certain, because you're certain that
17 they piled tablets on August 4th, 2009, aren't you?

18 A Yeah. There could have been files in the
19 other applications.

20 Q No, sir. Your testimony is you're certain of
21 that based upon the geometry of the peanut pile.

22 A But you also had different application rates.

23 Q So if we went from 49,000 to 35,000, your
24 testimony in this case would be different?

25 A No. I'm just saying there's different factors

1 that affect whether the tablets would pile.

2 Q What factors are those?

3 A The same thing. The geometry of the pile, the
4 amount of tablets you put in there.

5 Q Is there something about the geometry of the
6 pile on August 4th, 2009 or about the amount of
7 tablets on August 4th, 2009 that leads you to the
8 conclusion piling occurred then yet would not have
9 occurred on previous applications?

10 A I can't say whether it would have occurred on
11 previous applications or not. It could very well
12 have.

13 Q You don't know anything about the geometry of
14 the peanut pile on August 4th that was different
15 from any other time, do you?

16 A Well, actually, there -- there is a difference
17 in the -- in between then because the protectant had
18 been applied by the Severn employees. That was in
19 between the fumigations. Time had passed.

20 Q I'm confused. What does the protectant have
21 to do with the geometry of the peanut pile?

22 A I don't know if it has to do -- you're asking
23 what would be different. So there's different
24 situations -- I mean, there's -- it's a different
25 day, it's a different application, it's a different

1 amount from the previous application.

2 So I'm saying that there are variables that
3 could affect the difference. I'm not saying there
4 was no piling on the previous -- previous
5 fumigations, but there may be variables in between
6 the fumigations that affected what happened on
7 August 4th.

8 Q And that's not what I'm focused on.

9 A I'm sorry.

10 Q I'm focused on whether there was piling on the
11 other occasion in which the fumigations occurred from
12 the head house with Fumitoxin tablets, and if you're
13 saying there had to be piling on August 4th, 2009,
14 then isn't it true that you also must be saying on
15 each and every other occasion that there was an
16 application from the head house with Fumitoxin
17 tablets there was piling then, too?

18 A I don't think that's -- no. I don't think I
19 would say that.

20 Q So maybe there wasn't piling on other
21 occasions?

22 A I don't know.

23 Q What basis do you have to know that there was
24 on August 4th, 2009?

25 A The things we just discussed. That they --

1 what they can see, how they applied it, the geometry,
2 the slope, the conditions. All those things we just
3 talked about.

4 Q What was the total surface area of the
5 peanuts, Mr. Rich -- the 21 million pounds of
6 peanuts?

7 A I believe that was covered in the EPA report,
8 and I can look that up for you.

9 Q It's also covered in Dr. Jones' report, but
10 take a look at the EPA report if you want.

11 A Okay. Let's see. They talk about the
12 1,345,000 cubic feet and the total volume of the dome
13 and then the approximate volume of the head space in
14 cubic feet. But they don't give it in square feet.
15 If you have it in a --

16 Q Sure. I will tell you that on page 18 of
17 Dr. Jones' report, she calculated 66,000 square feet.
18 Does that sound like a reasonable estimate to you,
19 based upon the configuration of the dome as you
20 recall it?

21 A I don't know if that's correct or not, but it
22 seems like it would be in the ballpark.

23 Q It was a massive --

24 A Right.

25 Q -- dome, correct?

1 A Right. Yes.

2 Q And you're talking about the surface area of
3 21 million pounds of peanuts, right?

4 A Yes.

5 Q Do you know what the total surface area of the
6 49,000 Fumitoxin tablets applied on that day was?

7 A I believe that's in Jones' report, also.

8 Q It is. And that comes out to 108 square feet.

9 A Correct.

10 Q Does that sound reasonable to you based
11 upon --

12 A It sounds reasonable to me if you line them
13 all up on this table touching each other.

14 Q Sure. Well, if you stack them on top of each
15 other, it's going to cover less than 108 square feet,
16 correct?

17 A Yes.

18 Q Okay. So you're in a maximum of 108 square
19 feet when you apply those tablets, correct?

20 A I don't know if that's accurate or not.
21 Again, it depends on how -- the human factor. It
22 depends on how far Lilley and Turner can throw a
23 tablet from a flask.

24 Q We're missing each other. I'm not talking
25 about the distribution. I'm talking about the actual

1 surface area of each tablet times 49,000. That's
2 what I'm talking about.

3 A Okay. But --

4 Q Because that's the largest area that those
5 tablets could take up if they, in fact, were touching
6 one another, correct, would be 49,000 times the
7 surface area of each individual tablet?

8 A Of each individual tablet, if they were laid
9 out in a sheet --

10 Q Right.

11 A -- so to speak. Okay. All right. Yes.

12 Q Well, if 108 square feet of tablets is applied
13 on 66,000 square feet of a surface area, do you know
14 what the total percentage of the tablets is to that
15 66,000 square feet?

16 A No.

17 Q I'll give you a calculator if you want, but
18 the math turns out to be .16 percent.

19 A Okay.

20 Q So why is it that the tablets that would take
21 up .16 percent of the surface area of the peanut
22 surface would necessarily clump together in piles
23 when they were applied? Why is that?

24 A Because of the application method. All those
25 things we just talked about.

1 Q And your conclusion, as you testified about in
2 July of 2011, was that they didn't just clump
3 together in piles. They clumped together in piles of
4 at least 250 tablets, correct?

5 A That -- I would not accept the
6 characterization that that was my conclusion. That's
7 what I testified to, but I would say that that's not
8 my conclusion in this case.

9 Q What is your conclusion in this case? What
10 were the size of the piles?

11 A I don't know.

12 Q What size of a pile was necessary in order to
13 cause a reaction that would lead to combustion?

14 A You can't say that because you don't know how
15 they're landing and how they're joining together.

16 Q Dr. Jones' report states, it is very difficult
17 to accidentally pile these tablets due to their slick
18 surface and their geometry. It is even difficult to
19 intentionally do so.

20 Do you have any basis to disagree with what
21 she says?

22 A Well, how is she doing that? I mean, is
23 she -- I don't -- I need -- I would have to say I
24 need more information to answer that question.

25 Q Have you ever done any work with Fumitoxin

1 tablets?

2 A No, sir.

3 Q Not before the Severn fire and not after the
4 Severn fire?

5 A No.

6 Q You've never even opened a flask for yourself?

7 A I have not.

8 Q You've never even looked with your own naked
9 eye at Fumitoxin tablets?

10 A I'm trying to think -- I think I did -- no. I
11 think I have seen tablets, yes, but I haven't used
12 them or applied them.

13 Q Or played with them to figure out what's going
14 to happen when you drop 49,000 from 20 to 25 feet
15 above a commodity?

16 A I have not.

17 Q You know who Mr. Ryman is?

18 A I remember the name from the deposition, yes.

19 Q You, in fact, didn't review his deposition at
20 the point in time you prepared your report, did you?

21 A I don't -- I don't believe I had that at the
22 point -- at that time, no, sir.

23 Q Mr. Ryman is the lead technical person at
24 DeGesch America, who is the sole distributor of
25 Fumitoxin. Did you know that?

1 A Yes.

2 Q Do you think it's odd that you didn't have his
3 deposition testimony at the time you prepared your
4 report?

5 A I don't know if it's odd. I didn't have it.
6 I don't know.

7 Q Do you think you should have it in view of the
8 fact that you are testifying about what his product
9 does and doesn't do?

10 A Possibly.

11 Q Would you agree that Mr. Ryman knows more
12 about Fumitoxin than you do?

13 A Probably.

14 Q Mr. Ryman's report states, both the 20 to
15 25 foot drop from the head house to the top of the
16 peanut pile and the angle of repose of the pile would
17 have led to the tablets scattering and distributing
18 once they struck the surface of the pile.

19 Do you have any reason to disagree with that
20 statement?

21 A Yeah, I don't think that's right.

22 Q Did you know that Mr. Ryman for years has
23 taught the proper application of Fumitoxin tablets to
24 certified applicators?

25 A I'm not -- no, sir, I'm not familiar with him.

1 I mean --

2 Q And you would agree with me that if the
3 application of Fumitoxin tablets by Mr. Turner and
4 Mr. Lilley on August 4th, 2009 did not result in
5 the piling of Fumitoxin tablets -- because that is a
6 foundation of your opinion in this case -- that your
7 opinion would therefore be incorrect, accepting my
8 assumption?

9 A Give that to me one more time.

10 Q Would you agree with me that if, in fact,
11 Mr. Lilley and Mr. Turner, when they applied the
12 Fumitoxin tablets on August 4th, 2009, did not
13 apply them in such a way that piles of those tablets
14 were formed on the surface of the peanuts, if that's
15 the case, then your opinion in this case would be
16 incorrect?

17 A I would say if that's the case, there would
18 not have been a fire.

19 Q Well, your opinion is there was a fire only
20 because they did that?

21 A Correct.

22 Q And if they didn't do that --

23 A There wouldn't have been a fire.

24 Q Or you're incorrect as to what caused the
25 fire?

1 A I don't think I'm incorrect as to what caused
2 the fire. So I would say that if they weren't piled,
3 there wouldn't have been a fire.

4 Q If the jury should conclude there were no
5 piles, then they have to find some other cause of the
6 fire, don't they?

7 A I'm not sure I can -- I don't know. I'm not
8 the jury. I don't know what -- I'm not sure -- that
9 sounds like a legal question.

10 Q We know there was a fire, right?

11 A That's correct.

12 Q And if there were no piles of tablets, by
13 definition, something else caused the fire, right?

14 MR. WIDIS: Object to form.

15 A I would say if there was no Fumitoxin, then
16 something else could have caused the fire.

17 Q Are you now saying if it was piling of
18 Fumitoxin, it was Fumitoxin in some other way that
19 caused the fire?

20 A No.

21 THE VIDEOGRAPHER: Counsel, we've got to go
22 off the record.

23 MR. EPSTEIN: Perfect timing.

24 THE VIDEOGRAPHER: Okay. This is going to be
25 the end of tape number 5. Time now is 4:27 p.m.

1 We're off the record.

2 (A recess was taken.)

3 THE VIDEOGRAPHER: We're going back on the
4 record. This is the beginning of tape number 6.
5 Time now is 4:45 p.m.

6 Q Mr. Rich, on page 16 of your report, you
7 indicate that on August 28, 2009, a dredge was used
8 to collect a sample from the top of the peanuts under
9 the conveyor chute opening.

10 A I'm sorry. Page 16. Oh, yes. 16. Okay.

11 Q Can you explain what was done.

12 A Yes. I took a -- it was a small stainless
13 steel dredge, which is like a clamshell, and
14 basically lowered it through the hatch, and when
15 it -- it's got a cable that you lower it with, and
16 then there's a release. So when it hits, it kind
17 of -- just gravity just kind of lets it close.

18 And so then I pulled that up to see if we
19 could take a sample of the top of the -- any material
20 that was on the top of the pile.

21 Q Okay. You believe that the peanuts at the top
22 of the pile had been on fire for over three weeks as
23 of August 28th, 2009, correct?

24 A Yes, but I don't know exactly where, I mean,
25 directly under the chute.

1 Q What did you expect to learn by taking a
2 sample of peanuts that had been on fire for over
3 three weeks?

4 A I was actually trying to sample the peanuts
5 but also see if there was any residue of Fumitoxin or
6 aluminum hydroxide that was still -- you know, that
7 was on the top of the pile.

8 Q Aluminum hydroxide or aluminum phosphide?

9 A No, not aluminum phos- -- well, if it was
10 unreacted, it would be aluminum phosphide. If the
11 reaction had already expended itself, then I would
12 expect it to be the aluminum hydroxide.

13 (Exhibit No. 203 was marked for
14 identification.)

15 Q I've placed before you Exhibit 203. Can you
16 identify what that is.

17 A These look like photocopies of the sample or a
18 sample.

19 Q And what specifically is showing in that test
20 tube that is being held on the second, third, and
21 fourth page of Exhibit 203?

22 A It's a combination of the burned peanut --
23 burnt peanut material, burnt [unintelligible]
24 material. And there's -- it doesn't -- it's kind of
25 impregnated into the peanut, but there's some

1 pasty -- there's some pasty-like material associated
2 with that. It's kind of -- it's kind of a -- mixture
3 is not the right word, but it's just kind of mashed
4 together.

5 Q You indicate in your report that you turned a
6 sample over to Mr. Hargis representing IFC, who later
7 informed you that the sample provided to him tested
8 positive for aluminum phosphide residue. That's what
9 you write in your report, correct?

10 A Yes.

11 Q Are you sure of that, Mr. Rich, that that's
12 what Mr. Hargis told you?

13 A I'm not sure of that, because since this
14 report, you provided us with the lab results. But
15 that was my recollection --

16 Q Okay.

17 A -- at the time, but that -- based on the lab
18 results that you provided, that's incorrect.

19 Q Okay. Did you rely on that at all in your
20 analysis of what caused the fire in this case, that
21 Mr. Hargis had reported to you that the dredged
22 material that he had tested showed the presence of
23 aluminum phosphide residue?

24 A No, sir, I wouldn't say so.

25 Q Okay. I'll show you what's being marked as

1 Exhibit 104. I'm sorry. 204.

2 (Exhibit No. 204 was marked for
3 identification.)

4 Q Can you identify what Exhibit 204 is.

5 A Yes, I believe this is your -- this is the lab
6 report from Travelers.

7 Q Okay. And what, if anything, does this lab
8 report indicate that bears in any way on the cause of
9 the fire at the Severn peanut dome?

10 A Let me make sure what they said here. It
11 doesn't -- ask your question again. I think --
12 right.

13 Q What, if anything, on page 2 of this
14 Exhibit 204 bears in any way on the cause of the fire
15 at the Severn peanut dome?

16 A It doesn't in itself bear on the cause, but it
17 does -- they find aluminum residue, and it's -- it's
18 another -- it's another data point, basically, but I
19 would say it doesn't -- it doesn't directly go to the
20 cause of the fire because it's negative, so to speak.

21 Q It's negative in what way?

22 A It does not -- they do not report finding any
23 aluminum phosphide or -- well, they didn't report
24 finding aluminum.

25 Q But there's supposed to be a residue left

1 behind?

2 A Right, I was going to say, but that would --
3 but basically what this suggests to me is that
4 there's residue on the top of the pile.

5 Q Which is exactly what you would expect from an
6 application of aluminum phosphide tablets done
7 properly or improperly, correct?

8 A Yes.

9 Q Okay.

10 A There would be residue.

11 Q That's a natural byproduct of the reaction
12 that causes the liberation of phosphene gas?

13 A Yes.

14 Q Let me show you what's been marked as
15 Exhibit 205.

16 (Exhibit No. 205 was marked for
17 identification.)

18 A Okay.

19 Q What does Exhibit 205 appear to you to be?

20 A It appears to be -- it appears to me -- sorry.
21 Appears to be the document that I got from Mr. Widis,
22 purportedly from you, that is the actual analysis of
23 the sample that Mr. Hargis took.

24 Q And in fact, it says, samples from under chute
25 by dredge 8/28/09, correct?

1 A Yes, sir.

2 Q What results there -- well, let me ask this.
3 Do the results there have any different texture to
4 them, so to speak, than the results obtained in the
5 Travelers laboratory?

6 A No. I mean, it's essentially the same -- they
7 have none detected for phosphene. They do list out
8 the aluminum hydroxide and then a phosphorous
9 content. And then obviously, like I said, there was
10 some burnt kernels and husk or whatever. So they got
11 the oil out of that.

12 Q And again, I'll ask you the same question
13 about 205 I did 204. Is there anything in
14 Exhibit 205 that bears on the cause of the fire in
15 the Severn peanut dome?

16 A Other than that it shows there was Fumitoxin
17 placed inside the dome, and there's residue from that
18 Fumitoxin here, that's all it shows.

19 Q You didn't need to send a sample out for
20 testing to determine those two things. You knew them
21 before you sent them out, correct?

22 A Well, the way these things go, it's always
23 good to have a laboratory say that, yes, there's
24 Fumitoxin residue in the --

25 Q Okay.

1 A -- in the substrate or in the debris.

2 Q So the first paragraph on page 16 of your
3 report doesn't relate to how you concluded what the
4 cause of the Severn peanut dome fire was, correct?
5 It doesn't say this is -- the first paragraph is not
6 a basis upon which you concluded what the cause of
7 the fire was?

8 A That's correct. It's an action that was taken
9 and data that was collected.

10 Q Just process --

11 A Yeah, data collection. Right.

12 Q Okay. All right. I want to focus now on the
13 third paragraph on page 16, which states that the
14 phosphene gas exceeded the LFL within localized
15 pockets during the reaction to aluminum phosphide
16 tablets.

17 We've talked about that already today at
18 length, we've gone through the materials that you say
19 support that conclusion, and you listed there for me
20 earlier from your materials by number, correct?

21 A Yes, sir.

22 Q All right. And when you made that statement
23 in your April 30th, 2013 report, you did not have
24 in your hands the deposition transcript of Dennis
25 Ryman, correct?

1 A Yes.

2 Q Have you since been supplied with his
3 deposition transcript?

4 A I believe so, but I'm not 100 percent certain.

5 Q You know he's issued an expert report because
6 he's now also an expert for the defendants in this
7 case?

8 A I think he -- they may have sent me his expert
9 report. I don't know if I have his deposition.

10 Q Okay.

11 A Or it could be one way or the other, but I
12 think it's the report that I just got.

13 Q So you don't believe you've seen the questions
14 and answers that were asked of him by Mr. Goldstein
15 as well as myself back in April -- early April of
16 2013?

17 A I don't remember it.

18 Q Okay. I'm going to show you what we're going
19 to mark as Exhibit 206 --

20 (Exhibit No. 206 was marked for
21 identification.)

22 Q -- which is page 171 from Mr. Ryman's
23 deposition taken on April 10th, 2013. Go ahead and
24 review that, if you would.

25 A Okay.

1 Q Had you seen that before today?

2 A I don't believe so.

3 (Exhibit No. 207 was marked for
4 identification.)

5 Q I'm showing you what we're marking as
6 Exhibit 207.

7 Have you seen Exhibit 207 before today?

8 A No, sir, I'm pretty sure I've not.

9 Q So you don't believe you've seen either
10 Mr. Ryman's expert report or his deposition in this
11 case prior to today?

12 A I think I've seen something from Ryman. It --
13 I'm pretty sure it's not this. So it could have been
14 the deposition. I could have seen the deposition.

15 Q Let's start with the deposition. Based upon
16 what you've read on page 171, if the lead technical
17 person at the company that distributes Fumitoxin
18 testified under oath that it is very unlikely that
19 the piling of Fumitoxin tablets will result in the
20 lower flammable limit of phosphene gas being
21 achieved, what basis do you have to say that it is
22 actually more likely than not that the lower
23 flammable limit was achieved in relation to the
24 Severn peanut dome fumigation?

25 A The other research material besides his

1 testimony, the other documents and other research and
2 other materials that are available --

3 Q Go --

4 A -- that suggest it can happen.

5 Q Go to page 3 of his report, please. In the
6 middle of the bottom paragraph, toward the right-hand
7 side, there's a sentence that begins the reality is.

8 Do you see that?

9 A Hold on a second.

10 Q Along the right-hand margin.

11 A Okay.

12 Q He says, the reality is, as I testified in my
13 deposition, that it is very difficult to confine
14 phosphene gas because it disperses readily and
15 quickly under virtually any circumstance, and that it
16 would be very difficult to contain sufficient
17 phosphene gas within the pile or stack to result in a
18 localized concentration exceeding its LFL of
19 18,000 parts mer million.

20 Do you see that?

21 A Yes.

22 Q Your conclusion on page 16 is that the source
23 of heat, of ignition, in this instance resulted from
24 the spontaneous ignition of the phosphene gas which
25 exceeded the LFL within localized pockets during the

1 reaction of the aluminum phosphide tablets, right?

2 A Yes. I'm sorry. What page are we on?

3 Q Page 16.

4 A Right. Okay.

5 Q He's saying that's very difficult to achieve
6 because of the inability to confine the phosphene gas
7 sufficiently to get it to reach its lower flammable
8 limit, even in a stack or pile of tablets.

9 Do you see that?

10 A That's what he says, yes.

11 Q Do you have any scientific basis to disagree
12 with him in terms of the ability to sufficiently
13 confine the phosphene gas in a stack or pile of
14 aluminum phosphide tablets to reach the lower
15 flammable limit?

16 A Well, I have the -- the reference material
17 that says it can happen. The manual that his company
18 produced says it can happen. And then there are also
19 the case -- you know, there's various cases where
20 this has been involved with fires before.

21 So he's not saying it can't happen. He's just
22 saying it's unlikely, if I'm reading this correctly.

23 Q Would you concede that Mr. Ryman has more
24 expertise regarding the ability of phosphene gas to
25 disperse from a pile or stack of aluminum phosphide

1 tablets than you do?

2 A I might concede that he has more expertise
3 than me but not more expertise than all of the
4 documents that are available and the information
5 that's been published on the subject.

6 Q Are you an expert on the autoignition
7 propensity of phosphene gas?

8 A I would say as it relates to the case that
9 we're talking about, yes, but not in a situation like
10 Mr. -- I would say that Mr. Ryman has more expertise
11 on the matter than I do.

12 Q Okay. He says at the bottom of page 3 of his
13 report, I've been involved in testing and analysis in
14 which the concentration of phosphene gas far exceeded
15 18,000 parts per million without any result in
16 ignition or combustion. The fact of the matter is it
17 is very difficult to autoignite phosphene gas.

18 Do you have any reason to disagree with that
19 last statement, that it is very difficult to
20 autoignite phosphene gas?

21 A I disagree with the statement because there's
22 sufficient anecdotal evidence to fires occurring with
23 phosphene gas, the flashing of the container, the
24 warnings, the research, the other fires that have
25 been documented. So I wouldn't -- I don't -- I

1 disagree with it in the fact that he doesn't say
2 it's -- he doesn't say it's impossible. He says it's
3 very difficult.

4 Q You pointed to the application manual put out
5 by DeGesch America, for whom Mr. Ryman works, as
6 saying, well, even his own company's application
7 manual talks about the propensity of ignition from
8 piling or stacking of aluminum phosphide tablets,
9 right? You pointed to that section we looked at
10 earlier?

11 A Correct.

12 MR. WIDIS: Object to form.

13 Q Right. Take a look at what Mr. Ryman says
14 about that on page 3 of his report, and I will point
15 you to -- specifically to where he references that
16 statement in the second paragraph under the piling or
17 stacking of Fumitoxin tablets and risk of fire
18 section. The second paragraph there, he quotes that
19 section from the application manual, section 4.2.

20 He says, as I testified in my deposition in
21 this case, this statement is merely precautionary.
22 It does not mean and was not intended to convey that
23 the piling or stacking of tablets will result in the
24 LFL of phosphene gas being reached, let alone a fire.
25 The reality is, as I testified in my deposition, that

1 it is very difficult to confine phosphene gas because
2 it disperses readily and quickly.

3 And we've looked at that already.

4 On the basis of what he says about that
5 statement being merely precautionary, you're still
6 willing to conclude that that statement gives you a
7 basis for your opinion in this case?

8 A Yes.

9 Q Had you ever seen the Fumitoxin application
10 manual before July of 2009?

11 A July of 2009. I'm not sure. I think so, but
12 I don't know for certain when I first saw a copy of
13 the Fumitoxin manual.

14 Q Had you ever heard of the product Fumitoxin
15 before July of 2009?

16 A Yeah, I think I had heard of it. I don't know
17 that I had read -- read about -- I mean, as we talked
18 about, some of the hazardous materials training. We
19 discussed that.

20 Q Your professional life interacted with
21 Fumitoxin for the first time in July of 2009,
22 correct?

23 A In -- by July of 2009, are you referring to
24 the E.J. Cox case?

25 Q Yes.

1 A Because we talked about earlier previous --
2 yeah, I believe that would be the first -- the answer
3 that question would be yes.

4 Q And you're testifying under oath today in a
5 manner that contradicts somebody who has worked with
6 this product for his entire professional life?

7 A I'm only pointing out -- I'm not saying I
8 contradict what he's saying. I'm pointing out that
9 he -- I don't agree with everything he's saying. I'm
10 not necessarily contradicting the man. I'm saying I
11 don't agree with what he's saying. And he also goes
12 on to say it's not impossible.

13 Q So you're willing to state an opinion to a
14 reasonable degree of scientific certainty based on
15 something that's not impossible; is that right?

16 A No. That's what I said in regard to
17 Mr. Ryman's report. The opinion is based on the
18 totality of the circumstances that we've discussed
19 today.

20 Q And to a reasonable degree of scientific
21 certainty, correct?

22 A Yes.

23 Q On page 17 of your report, you conclude that
24 the fire had been burning for several days prior to
25 its discovery, correct?

1 A Yes.

2 Q I think earlier you -- when we were going
3 through the timeline, you were to the point of saying
4 probably on August the 5th, the day after the
5 application?

6 A Well, you said that, and I said that it's a --
7 it was -- it's a reaction curve, and the speed and
8 the robustness with which reaction takes place is
9 unpredictable when the Fumitoxin is piled up.

10 Q Okay. For the fire to have been caused by
11 localized pockets of phosphene gas that exceeded the
12 lower flammable limit of phosphene, would you agree
13 that the fire had to have been commenced at least by
14 August the 7th?

15 A Let's look at -- do we have a calendar? Let
16 me write that out so I can see what we're talking
17 about. So the fumigation was August the 4th. Okay.
18 So then we have the 5th, the 6th, the 7th. And we
19 previously talked about that fumigation was midday,
20 approximately, which would take 24 hours to take
21 midday to the next day, midday the 6th, midday the
22 7th.

23 And now I've got the dates. What was your
24 question?

25 Q Would you agree that for your theory of the

1 cause of this fire to be correct, the fire had to
2 have been commenced by August the 7th, 2009?

3 A Yes, I would say that's within the window of
4 reactivity that we were discussing earlier.

5 Q So once we conclude that the fire did not
6 begin by August the 7th, if we reach that conclusion,
7 we would need to look for other possible causes of
8 the fire rather than the Fumitoxin tablets releasing
9 phosphene that reached its lower flammable limit,
10 correct?

11 A Give me that one more time.

12 Q If, in fact, we were to conclude, no, the fire
13 actually began on August 8th or thereafter, we
14 would have to find another cause to attribute the
15 fire to than the cause you attribute the fire to?

16 A Well, are you -- and I think that's correct,
17 but are you saying when the fire began or when the
18 fire was discovered because --

19 Q No. When the fire commenced.

20 A There's different -- there's a lapse there or
21 a delay, so to speak.

22 Q Yes. We're getting to that. But I'm talking
23 about the physical inside-the-dome ignition
24 occurring. I think you've said that had to be by the
25 7th of August?

1 A I believe that's accurate. That's within the
2 window of the reactivity that we're talking about.

3 Q So if I had a magic camera in that dome that
4 nobody knows about that showed that there was no fire
5 in there until August the 8th, at that point you
6 would concede that your theory of the cause of this
7 fire is not the one that accurately describes what
8 caused the fire?

9 A All depends on what that camera showed. If
10 there's -- if there's smoldering taking place after
11 this up until you see it, then no. If the dome is
12 pristine, crystal clear, then yes.

13 Q And I believe you've already testified to
14 this, but I would like to hear it again. If we could
15 establish to your satisfaction that the fire in any
16 way, shape, or form on the surface of the peanuts was
17 not existent as of August the 8th, 2009, what would
18 be the leading candidate for the actual cause of the
19 fire that was discovered on August 11th, 2009?

20 Other words, we proved to your satisfaction no
21 fire on the surface of that peanut pile on August the
22 8th, 2009. What --

23 A Correct.

24 Q -- would be the leading candidate to be
25 labeled the cause of the fire that was discovered on

1 August 11th, 2009?

2 A It would be one of the other alternate
3 hypotheses.

4 Q The most likely being?

5 A Well, without eliminating the others, it would
6 be the self-heating led to thermal runaway which led
7 to spontaneous combustion.

8 Q Okay. Your conclusion that Fumitoxin tablets
9 in piles caused this fire required you to conclude
10 that the discovery of the fire had been delayed for
11 several days; isn't that correct?

12 A No. That's just the way it was. I don't
13 think it -- the conclusion didn't require me to -- I
14 don't understand the question.

15 Q You have no idea when the fire actually
16 started because there's no evidence of when the fire
17 started, is there?

18 A Well, there's evidence that once the fire
19 is -- the fire is discovered. But prior to that,
20 correct, there's not -- we don't have a time frame
21 for when the fire initiated in between this date
22 range that we're talking about.

23 Q The only basis you have to say that discovery
24 of the fire was delayed for several days relates to
25 your conclusion that it was caused by the phosphene

1 gas liberated from piles of Fumitoxin tablets,
2 correct?

3 A No. The delayed discovery has to do with the
4 geometry and the configuration of the building. The
5 building's airtight. The building is gastight. So
6 that's going to delay discovery of the fire.

7 Q You told me earlier that the building was not
8 gastight because the wisps of smoke that were
9 detected on August 11th were escaping through the
10 hatch through which Mr. Turner and Mr. Lilley applied
11 the Fumitoxin on August 4th, 2009. Correct?

12 A Right. That's -- that is my understanding,
13 that that hatch was not taped or otherwise sealed,
14 but it was replaced. So it's -- the rest of the
15 building, the vents, the fans, and all that
16 material -- not material -- all those openings have
17 been sealed, gastight, to hold in the phosphene.

18 Q There was nothing preventing smoke from a fire
19 on the surface of the peanuts on August 6th or
20 August 7th from escaping through the same place at
21 which it escaped on August 11th; isn't that right?

22 A Unless the smoke wasn't there yet. I mean,
23 the gap -- the crack that the smoke escaped from
24 certainly -- I'm not suggesting that it opened up at
25 some point in between. But you also have to

1 understand that with the fire burning, you've got to
2 fill that space, pressurize it, and then force the
3 smoke out through that miniscule opening or that
4 small crack or whatever is up there with the -- with
5 the piece.

6 Q For all you know, that could have happened in
7 a day?

8 A No. Not for all I know, no.

9 Q You have no more basis to say that it took
10 five days for that to happen than to say it took one
11 day for that happen, do you?

12 A Yes.

13 Q And what's your basis to say that it took some
14 five days for all those things to happen so the smoke
15 could escape from the head house?

16 A The basis is the type of fire. It's a
17 smoldering fire in an oxygen-deficient atmosphere or
18 oxygen-reduced atmosphere in a tightly-sealed
19 structure.

20 Q In your experience as a fire investigator,
21 does a slowly-developing fire typically result from
22 the lower flammable limit of a flammable gas being
23 achieved?

24 A It depends on what the -- what is ignited
25 by -- I'm -- you'll have to clarify that question for

1 me a little bit or give me some more details what you
2 mean by flammable gas.

3 Q When you think of a flammable gas, propane,
4 reaching its auto- -- becoming autoignited, what type
5 of an event do you think of?

6 A Normally with a rogue gas, it's a flash fire.

7 Q Yet the type of fire you believe occurred in
8 the Severn peanut dome from the lower flammable limit
9 of phosphene gas being achieved was a smoldering
10 fire; is that right?

11 A Yes. And it could -- and that fire in the
12 dome -- just because you didn't -- I mean, we didn't
13 talk about if the propane just flashed and that's it.
14 Then that's going to be a flash. If the flashing
15 propane ignites some other Silastic material, then a
16 smoldering fire can occur. And often you'll find in
17 investigating gas fires that there's a brief flash,
18 then there's localized burning of different materials
19 that were ignited by that flash.

20 So in the dome, because of the reaction of
21 the -- the ceiling of the dome by IFC, because of the
22 ammonia and the CO2 that's being produced as part of
23 the reaction, like I said earlier, it's a reduced
24 oxygen environment. So even if you have a flash or
25 you even have flaming combustion, initially in a

1 small location on the surface of the pile, that
2 combustion is going to transition or cycle, and it
3 may even cycle back and forth between smoldering and
4 flaming and smoldering and flaming depending on the
5 available air right there for combustion.

6 Q And what actually happened is something that
7 you don't know and can't possibly know, correct?

8 A I know that's the way the fire would behave
9 under oxygen-reduced or oxygen-deficient atmosphere.

10 Q But you don't know what was going on inside of
11 the dome between August the 4th and August the 11th
12 because we have no evidence of it, correct?

13 A I can't see in there, right, to tell you
14 that's what's happening. But based on my knowledge
15 of how a fire in a reduced-oxygen environment would
16 burn and behave, I can tell you that's what's going
17 on.

18 Q Who is Barry Lindley?

19 A He is a chemist that works for DuPont out of
20 the Belle, West Virginia facility up there. It's
21 a -- he does -- he's a chemist who works for them.
22 But he primarily does training and emergency response
23 for DuPont.

24 Q What role has Barry Lindley played in this
25 case?

1 A To my knowledge, he came to the scene after
2 the explosion for -- I don't -- he may not even have
3 been there for a day. And then I haven't -- that's
4 it. I don't know that he's involved in the case
5 anymore.

6 Q Did you have any discussions with him as you
7 were trying to form your opinion in this case?

8 A Yes, I'm sure I talked to him while he was,
9 you know, on site at the dome.

10 Q Is that when you formed your opinion in this
11 case?

12 A No. That was when I was collecting data and
13 information, as we've talked about earlier. To my
14 knowledge -- I'm sorry. Go ahead.

15 Q When is the last time you had a discussion
16 with him about Severn?

17 A I believe it was that -- the day he was at the
18 scene. I'm pretty certain I haven't talked to him
19 about Severn since.

20 Q Did he provide you any information or analysis
21 that assisted you in forming your opinion in this
22 case?

23 A I would say I don't think so, but I don't
24 completely recall because we did talk the day that he
25 was there at the scene. So he may have given me some

1 information about aluminum phosphide or related some
2 technical aspect of it. But I have not -- I haven't
3 had a conference call with Howard and he or something
4 like that and discussed this particular case.

5 Q Okay. I'm going to need to go off the record
6 to gather my last few materials, but after I do that,
7 I think we've got about 20 minutes or so, and we'll
8 be done.

9 THE VIDEOGRAPHER: Okay. We're going off the
10 record. Time now is 5:18 p.m.

11 (A recess was taken.)

12 THE VIDEOGRAPHER: We're going back on the
13 record. The time now is 5:26 p.m.

14 Q Mr. Rich, I'm going to show you what I've
15 marked as Exhibit 208.

16 (Exhibit No. 208 was marked for
17 identification.)

18 Q I'm sorry. Wrong one. That one.

19 A Okay.

20 Q Can you identify what Exhibit 208 is?

21 A It's an email from Barry Lindley.

22 Q To you?

23 A Yes.

24 Q And in fact, that was the day before you
25 provided your sworn testimony in the E.J. Cox case,

1 correct?

2 A Yeah. I think that deposition was on the
3 13th.

4 Q Okay. What was he tell- -- what did you make
5 of all this information that he shared with you then?

6 A I don't -- I don't know what you mean. I
7 mean --

8 Q What -- what information was he providing you
9 about the reaction of aluminum phosphide pellets or
10 tablets that you did not know at the point he
11 provided you this information?

12 A I think my question to him had been about the
13 heat of formation or the theoretical heat of
14 formation as to a way to calculate that to estimate
15 what the heat of formation would have been. And he
16 had access to some resources I didn't, which I
17 believe is the -- I think he referenced it here. The
18 chemical -- chemical handbook or the C -- excuse me.
19 CBE or CEB. And so he had -- he had provided that
20 reference material to me.

21 Q Your opinion in this case, the Severn peanut
22 case, has nothing to do with the heat of formation of
23 phosphene, correct?

24 A That's correct.

25 Q It has to do with the lower flammable limit of

1 phosphene gas being obtained?

2 A Yes.

3 Q Do you know whether Mr. Lindley, when he was
4 on site at Severn Peanut Company, formed any
5 opinions, hypotheses, or impressions regarding the
6 cause of the Severn peanut fire?

7 A I don't know.

8 Q I'll show you what we've marked as
9 Exhibit 209.

10 (Exhibit No. 209 was marked for
11 identification.)

12 Q I believe both pages are identical, but for
13 some reason they were two separate pages in the
14 materials that we were provided. Do you know what
15 Exhibit 209 is?

16 A It's my recollection -- and like I said, I
17 have not talked to him about this since he was there,
18 but this was -- it's kind of a hieroglyphic graphical
19 representation of -- I don't even know if it's an
20 opinion. It's a hypothesis that Barry had about the
21 explosion, not the cause of the fire.

22 Q Okay. So to the extent we see the pictures
23 there, those are supposed to be the dome?

24 A Yes.

25 Q And the red dots are the peanuts?

1 A Yes.

2 Q And the line above the red dots is the area
3 above the peanuts that's the head space?

4 A Yeah. Yes. Yes. The two little -- in
5 between the blue line and the two hashes, I guess,
6 are the two little parallel lines at the top that
7 would be the head space.

8 Q Mr. Rich, would you agree that one does not
9 need to understand the dynamics of the explosion on
10 August 29th, 2009 to be able to come to a
11 determination as to what did or did not cause the
12 fire to begin some weeks before then?

13 A Yes, I would agree to that.

14 Q So you didn't rely on anything regarding the
15 explosion to inform your opinion as to what caused
16 the actual fire?

17 A No.

18 Q And it was -- the explosion was likely
19 influenced by the fire suppression efforts that took
20 place from the 15th of August until the day of the
21 explosion?

22 A Possibly, yeah. Particularly if you follow
23 this hypothesis, it would be, yes.

24 Q Okay. Who is Mark Beavers?

25 A Mark Beavis -- I'm sorry. Mark Beavers is

1 the -- well, I don't know if he's still -- at the
2 time, he worked for Rimkus, and he was the other fire
3 investigator retained, and I believe he was retained
4 directly by Mr. Byers.

5 Q From Travelers?

6 A From Travelers. Right.

7 Q Was he at the scene before you, or were you at
8 the scene before he was?

9 A I believe -- well, he may have been there
10 slightly before me. I mean, I think he got there the
11 same day that the meeting occurred and the sign-in
12 sheet was taking place, but I don't know what time he
13 arrived.

14 Q Did you have discussions with him subsequent
15 to September of 2009 about what may have caused this
16 fire?

17 A Subsequent to when?

18 Q September of 2009, after everybody
19 disassembled from the scene.

20 A I don't believe I had any conversations with
21 him regarding the cause of the fire, but I believe he
22 may have been at a meeting where we discussed the
23 timeline or the manufacture -- not the man- -- but
24 the rough draft of the timeline. That was done in
25 Charlotte, and I kind of think he might have been

1 there, but I'm not 100 percent positive. There
2 wasn't -- there's not a sign-in sheet or anything.

3 Q Did Mr. Beavers, to your knowledge, form any
4 opinions, hypotheses, or impressions regarding the
5 cause of the Severn peanut fire?

6 A I don't know.

7 Q Do you know if there was any consideration
8 given to him becoming a testifying expert witness in
9 this case?

10 A No.

11 Q On page 21 of your report, you refer to a
12 consultation with John Schumacher, item number 36.
13 Can you tell me about that consultation.

14 A Yes. That's just a -- either -- it might be
15 more than one phone call with Schumacher just
16 discussing the case in general.

17 Q Were you trying to learn something from him?
18 Was he trying to learn something from you?

19 A I don't know -- I don't know if you could
20 characterize it like that. It was just -- it was a
21 general discussion of the case and the materials.

22 Q Did anything that Mr. Schumacher shared with
23 you during any phone consultation assist you in
24 forming your opinions in this case?

25 A I don't believe -- I would say -- I would say

1 no, I don't believe that it -- that anything that he
2 and I talked about, you know, changed or affected my
3 opinion.

4 Q Okay. You also have listed consultation with
5 Dr. John Cavarack, correct?

6 A That's correct.

7 Q Well, let me back up. You have a consultation
8 with Barry Lindley listed. Have you already told me
9 everything there is to know about that?

10 A Right. That's from the scene that we're
11 talking about.

12 Q What about Mr. Cavarack? What did you consult
13 with him about?

14 A I consulted with him about the electrical
15 issues surrounding the gantry system, the
16 unloading -- or I'm sorry -- the conveyor system, the
17 motors, a little bit about the thermocouple system.
18 I remember he and I inspected that in the -- excuse
19 me -- in the house down below where the recording
20 data was, looking for signs of lightening strike or
21 overcurrent or damage to the low voltage wiring,
22 which is often easily discovered.

23 He was -- I believe he did come to a meeting
24 in Charlotte maybe back in December, just a general
25 meeting that we had at Quick Widis about the case.

1 But primarily my discussions with him dealt
2 simply with the electrical system and the -- and a
3 little bit of the lightening issues.

4 Q And to the extent you relied on him, you
5 relied on him to assist you in excluding those two
6 possibilities as potential causes of the fire?

7 A Yes.

8 Q Okay. Have you had any interaction in this
9 case about the Severn peanut fire with Steve Brown?

10 A I know he's involved in this case. Yes, he
11 was -- he was at the same meeting in December time
12 frame, I believe.

13 Q Did you review his report in any form prior to
14 the time you issued yours?

15 A No, I have not seen his report.

16 Q Have you seen his report today?

17 A I have his report. I haven't read it, but I
18 have it.

19 Q Is there anything that Steve Brown assisted
20 you in learning that aided you in forming your
21 opinion in this case?

22 A In general, I would say as far as -- I don't
23 know that necessarily specifically to my opinion, but
24 what I did learn from him was some of the issues
25 associated with storage of the peanuts, the

1 differentiation, the different types of peanuts, some
2 of the agricultural background. I would say my
3 interaction with him was more of a -- more
4 commodity-based background information, I guess would
5 be the way to characterize that.

6 Q Is there any information that he provided to
7 you that assisted you in forming your opinion as to
8 what the cause of the fire at the Severn peanut dome
9 was?

10 A I don't believe so, but he had provided
11 information that, you know, assisted me in the
12 E.J. Cox, and so in my mind, I want to make sure that
13 I'm differentiating those. But we haven't had a
14 specific conversation about this case, but we did
15 have about that case. So once it's in my head, it's
16 hard to say.

17 Q Have you had any interaction with John
18 Mueller, who has also been identified as a testifying
19 expert witness in this case?

20 A I have not.

21 Q Have you reviewed his report?

22 A I think I got his the same time I got Steve
23 Brown's.

24 Q Have you reviewed it?

25 A Mueller?

1 Q M-U-E-L-L-E-R.

2 A Oh, Mueller. I did read it, yeah. Sorry.
3 And now that you say that, I remember that he said he
4 pronounced it Miller.

5 Q Did you see any version or iteration of that
6 report prior to the time you issued yours?

7 A No.

8 Q Is there anything in his report that aids or
9 assists you in the opinion that you're expressing in
10 this case?

11 A I have just gotten his report, and I don't
12 know the answer to that question.

13 Q Have you had any interaction with anyone else
14 that we haven't discussed today regarding the
15 development of your opinions in this case aside from
16 Mr. Widis or anybody at his law firm?

17 A Excluding all the people we've -- I mean,
18 including all the people we've talked about today?

19 Q I'm looking for anybody else.

20 A Anybody else, no.

21 Q Do you have any knowledge regarding the fire
22 that occurred in Toledo, Ohio at an ADM grain bin
23 that had been fumigated by IFC applicators?

24 A Yes.

25 Q What is your understanding of the sequence of

1 events that led to that fire?

2 A What I have is a -- I think it's like a part
3 of a presentation that I got from Mr. Widis that has
4 some photographs and some bullet points about that
5 loss, and the -- my understanding of that is -- and
6 it's limited solely to what I can read and see on the
7 pictures -- is that Fumitoxin was applied through the
8 top hatch or opening of this concrete grain silo and
9 that -- and I'm not -- I don't -- I can't remember if
10 it gives a time frame. Subsequent, the fire is
11 discovered, but the photographs that -- the post-fire
12 photographs clearly show a large pile of residue that
13 would be commonly associated with expended Fumitoxin.

14 There's no scale laid in the photo, so it's
15 difficult to see, but I would estimate it, you know,
16 at maybe a 2-foot diameter. And I believe there's --
17 but I don't have the photos in front of me, but I
18 believe there's a -- I believe it was a multiple -- I
19 believe there's another one, like, further back where
20 the Fumitoxin was applied, and then there's some more
21 photos of the -- of like a breaching operation on the
22 side of the silo to allow the grain to flow out.

23 Q Do you have any appreciation of the timeline
24 of application to fire in that instance?

25 A If you have the presentation or -- I don't

1 know if it's available. We could look at it. But I
2 don't recall it discussing a -- like I said, it
3 was -- it was a -- it looked to me like it was a
4 photocopy of a presentation that you would give at a
5 seminar or something, and I don't think all of the
6 material was there.

7 Q Have you formed any opinions, hypotheses, or
8 impressions regarding the cause of the ADM grain silo
9 fire?

10 A No.

11 Q And nothing about the ADM grain silo fire
12 informs your opinion in this case involving the
13 Severn peanut dome; is that correct?

14 A It doesn't inform my opinion, but the
15 photograph of the expended residue I would say is
16 consistent with what I've been talking about today
17 and the piling of the tablets and suggests that that
18 can and does happen and there is residue left over
19 and it's very localized.

20 Q Did you know that the area of localized
21 Fumitoxin residue that you're looking at in those
22 photos is from a grain bin that did not have a fire?

23 A No. I said it's the -- and then -- okay. No.

24 Q What would that tell you about the propensity
25 of piling or stacking of Fumitoxin tablets to cause a

1 fire?

2 A It would tell me exactly what we've been
3 talking about all day. It's dependent on the
4 conditions and the exact environment that the
5 situation occurs. It's the totality of the
6 circumstances, all of the factors coming together.

7 Q Presume for a moment that the dome fire --
8 just assume this -- began deep in the pile of the
9 peanuts as a result of self-heating. All right. So
10 we know that the fire that was discovered, under my
11 scenario, on August 11th, 2011 -- 2009, was the
12 result of a fire that began with self-heating in the
13 middle of the peanut pile.

14 Can you explain a path or progression of that
15 self-heating in the middle of the pile that would
16 lead to the fire that was discovered on August the
17 11th?

18 A I'm not -- okay. So I don't understand what
19 you mean by give you a path to --

20 Q What would the likely progression have been
21 from the self-heating in the middle of the pile to
22 the eventual discovery of smoke coming out of the
23 head house, if that is the manner in which this fire
24 occurred?

25 A If that's the manner in which the fire

1 occurred -- which I don't believe it is -- I would
2 expect that you would have the fire developing in the
3 pile and then smoke coming up through the pile,
4 collecting in the head space, venting out. But you
5 would also have probably -- I would expect that that
6 fire would -- since it starts in the pile, it's going
7 to migrate within the pile, based on the geometry and
8 the void spaces and the air -- the spaces between the
9 peanuts.

10 So I think you would have a -- it would be
11 like a fire in -- say it was insulation or a sawdust
12 pile or something like that, where the fire is going
13 to tunnel -- I guess is the word I was looking for --
14 is going to tunnel through in different places of the
15 of the mass.

16 Q And eventually work its way up to the surface?

17 A It would eventually work its way up to the
18 surface.

19 Q And at some point, there would be smoke at the
20 surface which would eventually work its way out?

21 A At some -- yeah. Probably there would be
22 smoke at the surface before the fire got to the
23 surface. I mean, I would think the smoke would come
24 out first.

25 Q Okay. If the Severn peanut dome fire, as you

1 opined, was a surface fire, why didn't the dry ice
2 completely extinguish it?

3 A Because it's a class A material and the dry
4 ice, although it sublimates and does absorb some
5 heat, it's absorbing a lot of that heat from the
6 environment, not from the actual fuel. And we talked
7 about earlier, the smoldering combustion is a
8 particle-to-particle progression of the flaming zone
9 or flame front.

10 So if you dump dry ice in -- let's go back to
11 the fire triangle. Three things to have a fire, air,
12 heat, fuel. We've got fuel. We have heat. So we
13 dump dry ice in or -- sorry. They dump dry ice in to
14 try to remove the air from the fire triangle and
15 extinguish the fire, and that -- while that
16 diminishes the fire and knocks the fire down, it
17 doesn't address the heat that remains in the system,
18 because we talked about earlier it's a dome. It's a
19 sealed system.

20 It's very similar to -- if your couch is on
21 fire and you use a dry chemical fire extinguisher on
22 it, it will knock the flames down, but as soon as
23 that extinguishing agent dissipates a little bit,
24 it's likely that the fire will reignite because the
25 heat is still contained in the class A materials.

1 Q If self-heating does occur inside of a large
2 pile of a stored agricultural commodity, is there an
3 area within that pile that is more likely to exhibit
4 that self-heating than any other area?

5 A I'm not trying to be sarcastic, but I would
6 think the area that's self-heating would be more
7 likely to exhibit that.

8 Q I guess I didn't express the question well
9 enough. Is that more -- is self-heating more prone
10 to occur in the middle of a large grain mass or
11 peanut mass or commodity mass? On the top? At the
12 bottom? Or it doesn't really matter?

13 A I would say the self-heating is more likely to
14 occur within the commodity because that's one of the
15 issues or one of the -- not issues, but one of the
16 factors that would drive self-heating to thermal
17 runaway to ignition, is the insulative capability of
18 that mass. So normally you -- and it may -- it may
19 not manifest itself from the center of the pile, but
20 like a sawdust pile or hot bags of grass, that's
21 going to heat up from the inside or within, I guess
22 would be the answer to your question.

23 Q And would you agree that peanuts are a
24 particularly good insulator in that vein that you
25 described of a commodity being a good insulator?

1 A I would agree that they -- the data that I've
2 seen suggests that they are a good insulator. To --
3 but continuing that train of thought, in this
4 particular case, the fact they're a good insulator is
5 important, but also the fact that there's a lot of
6 air space around them and that they're an odd-shaped
7 commodity. So you would have -- that's going to
8 affect the convective heat currents. It's going
9 to -- it's going to change the dynamic a little bit
10 of what you're talking about. It's not just the
11 insulative quality, I guess is what I'm trying to
12 say. It's also the geometry.

13 Q Mr. Rich, have you read or reviewed any of the
14 expert reports that Mr. Widis has provided to you
15 from the defendants' experts in any detail at this
16 point?

17 A In no detail, no, sir. I've reviewed briefly.
18 I've seen them, but I have not had a chance to sit
19 down and study them.

20 Q So at this point, you would be unable to tell
21 me what specific opinions of each of the experts you
22 take issue with?

23 A Yes, sir. I don't think I can tell you that
24 right now.

25 Q All right.

1 A I'm sure I do, but I don't -- I can't tell you
2 which ones those are.

3 Q Mr. Rich, over the course of the seven or so
4 hours that you have testified today, have you
5 expressed every opinion you intend to express at the
6 trial of this action?

7 A Yes.

8 Q Have you told me about every basis you have
9 for your opinions?

10 A Yes.

11 Q Is there any other work you intend to perform
12 in relation to this matter between now and the time
13 of trial?

14 A I don't know. If I'm asked to I would, but
15 there's nothing planned. Nothing I'm aware of.

16 Q And on page 1 of your report, you state, as
17 most experts do, that, if necessary, additional
18 reports may be submitted to reflect any changes to my
19 conclusions that may arise from the analysis of any
20 additional information.

21 Let me ask you first, have you reviewed any
22 additional information since the issuance of your
23 report that you would consider significant enough to
24 change any of the conclusions you express in your
25 report?

1 A No.

2 Q Have you reviewed any additional information
3 since April 30th, 2013 when you issued your report
4 that you would consider significant enough to alter
5 anything you expressed in your report?

6 A Have I reviewed anything else that would cause
7 me or suggest that I want to alter the report?

8 Q Anything in the report.

9 A Anything in the report.

10 Q Not just your opinions.

11 A Well, I haven't read it, but what we talked
12 about today, I would change that sentence to make it
13 read more correctly that we talked about in the page.

14 But other -- no, I don't think --
15 substantively to the report, I don't think there
16 would be any changes.

17 Q And the sentence that you're talking about is
18 the first sentence in the second paragraph of
19 page 14?

20 A Yes. 13.

21 Q The first sentence in the second paragraph?

22 A Right. As we talked about previously and now
23 that we sit here and I read it in this light, I
24 probably would move that further down and make it a
25 little clearer that that's a -- what we discussed.

1 Q And I'm going to ask you a similar question.
2 During your preparation for your deposition, did you
3 see anything that you included in your report that in
4 hindsight you believe should not be in your report?

5 A Did I see anything I included in my report
6 that I now believe should not be in my report?

7 Q That's my question.

8 A No.

9 Q And --

10 A No. I would say no. No. I'm sorry.

11 Q And during your preparation for your
12 deposition, did you see anything that you omitted in
13 your report that you believe should be in your
14 report?

15 A No.

16 MR. EPSTEIN: Then at this point, I have no
17 further questions. Thank you very much for your
18 time.

19 MR. WIDIS: I've got a few.

20 MR. EPSTEIN: Okay.

21 CROSS EXAMINATION

22 BY MR. WIDIS:

23 Q Mr. Rich, I want to draw your attention to the
24 opinion you expressed regarding the Severn case that
25 you expressed in the deposition you gave in the

1 E.J. Cox deposition in July 2011.

2 Was that opinion as to the cause of the Severn
3 fire a working hypothesis?

4 A That -- yes, that would be a fair
5 characterization of that.

6 Q All right. Once discovery in the Severn case
7 commenced, were you provided discovery in that case?

8 A In this case?

9 Q In the Severn case.

10 A Yes.

11 Q All right. Which pieces of discovery were you
12 provided?

13 Let me ask you another --

14 A I was going to say, absent just a few things,
15 it would be what's listed in appendix A except for
16 things that I have, like my notes or the photographs.

17 Q Did you review and analyze each piece of that
18 discovery that was provided?

19 A I did.

20 Q Did you review and analyze it with an open
21 mind?

22 A Yes.

23 Q Would you have revised or changed your opinion
24 if you saw facts or information that was inconsistent
25 with the preliminary opinion you reached?

1 MR. EPSTEIN: Objection to form.

2 A Oh, the -- from when I discussed it in the
3 E.J. --

4 Q Right.

5 A Yes, if something was different. Certainly.

6 Q And as a result of your review of the
7 discovery, did you learn of any facts inconsistent
8 with your working hypothesis?

9 A No.

10 Q Were there any outliers that you learned about
11 during your review of the discovery that were
12 inconsistent with the working hypothesis of the cause
13 of the Severn fire?

14 MR. EPSTEIN: Objection to form.

15 A When you're talking about the outliers with
16 the working hypothesis --

17 Q Let me ask you this --

18 A I would say the outliers relate to this. I
19 don't find there are any outliers in this final draft
20 of my report, the final hypothesis. But there is
21 some difference between this and what I said in
22 E.J. Cox was the working hypothesis. I don't want to
23 be -- I don't want to get confused.

24 Q All right.

25 A I want to be clear. Sorry.

1 Q And did some of the discovery cause you to
2 amend that working opinion?

3 A I would say refine it, not necessarily amend
4 it, but narrow it down and focus the opinion.

5 Q All right. Is it accurate that you did not
6 reach your final opinion until after you had reviewed
7 all the data collected and your review of all the
8 material identified in your report?

9 MR. EPSTEIN: Objection to form.

10 A Yes, I would say -- I mean, we talked about
11 the working hypothesis, but that's -- but yes, the
12 final opinion includes all of this material and the
13 discovery.

14 Q Okay. And you didn't reach your opinion -- is
15 it accurate that you did not reach your final opinion
16 until after you had reviewed all of that material?

17 MR. EPSTEIN: Objection to form.

18 A Yes, sir.

19 Q All right. I want to also go back to the
20 question that Mr. Epstein asked you regarding the
21 testimony of Randy Turner and Brian Lilley, and for
22 clarification sake, do you accept the testimony of
23 Randy Turner and Brian Lilley that they did not see
24 tablets piled in the area that they could see as
25 reliable evidence that there was no piling in that

1 area?

2 A Well, I think that's what I said to -- to
3 Mr. Epstein, that they said they didn't see it, but
4 that doesn't mean that it's not there. And if -- I
5 think Mr. Epstein showed us a little section of
6 this -- of their depositions. But at the break, I
7 was looking at all of the deposition, and there's --
8 they're kind of -- they're kind of all over the place
9 or there's -- it seems like there's some -- it seems
10 like he doesn't remember a lot.

11 But like I said, just -- my thought on that is
12 that if he didn't see it, that doesn't necessarily
13 mean it didn't exist.

14 MR. WIDIS: All right. That's all I have.

15 MR. EPSTEIN: I have nothing further.

16 THE VIDEOGRAPHER: Okay. This concludes the
17 videotaped deposition of Lester Rich. The time now
18 is 5:55 p.m. We're off the record.

19 (The deposition concluded at 5:55 p.m.)
20
21
22
23
24
25

1 I have read the foregoing pages which contain a
2 correct transcription of the answers given by me to the
3 questions herein recorded. My signature is subject to
4 corrections on the attached errata sheet, if any.

5
6 Signed this _____ day of _____, _____.
7
8

9 _____
10 LESTER V. RICH
11

12 STATE OF _____

13 COUNTY OF _____
14

15 Subscribed and sworn to before me this _____ day of
16 _____, _____.
17

18
19 _____
20 Notary Public
21

22 My commission expires:
23
24 _____
25

CERTIFICATE OF REPORTER
STATE OF SOUTH CAROLINA
COUNTY OF CHARLESTON

I, Cherie J. Anderson, Registered Professional Reporter and Notary Public for the State of South Carolina at Large, do hereby certify that the witness in the foregoing deposition was by me duly sworn to testify to the truth, the whole truth, and nothing but the truth in the within-entitled cause; that said deposition was taken at the time and location therein stated; that the testimony of the witness and all objections made at the time of the examination were recorded stenographically by me and were thereafter transcribed by computer-aided transcription; that the foregoing is a full, complete, and true record of the testimony of the witness and of all objections made at the time of the examination; and that the witness was given an opportunity to read and correct said deposition and to subscribe the same.

Should the signature of the witness not be affixed to the deposition, the witness shall not have availed himself of the opportunity to sign or the signature has been waived.

I further certify that I am neither related to nor counsel for any party to the cause pending or interested in the events thereof.

Witness my hand, I have hereunto affixed my official seal on July 30, 2013, at Charleston, Charleston County, South Carolina.

Cherie J. Anderson
REGISTERED PROFESSIONAL REPORTER
CERTIFIED REALTIME REPORTER
My Commission expires
April 30th, 2023

STATE OF NORTH CAROLINA
COUNTY OF BLADEN

THE GENERAL COURT OF JUSTICE
SUPERIOR COURT DIVISION
CASE NO: 10 CVS 971

E.J. COX COMPANY, INC., and)
AMERICAN FIRE AND CASUALTY)
COMPANY, as subrogee of)
E.J. COX, COMPANY, INC.,)

Plaintiffs,)

-vs-)

PESTCON SYSTEMS, INC.,)

Defendant.)
-----)

DEPOSITION OF:

LESTER V. RICH

COPY

The deposition of LESTER V. RICH, taken before
Julie L. Bonomo, Professional Court Reporter and Notary
Public, at Bluestein Law Firm, 1040 eWall Street, Mount
Pleasant, South Carolina, on Wednesday, July 13, 2011,
commencing at 9:03 a.m.

1 the vast majority of applications, caused the fire?

2 MR. NALIBOTSKY: Object to the form of the
3 question.

4 A. I can't speak to the vast majority of
5 applications. I'm not sure what you mean, but I
6 believe, yes, that the Fumitoxin applied in this case
7 resulted in a chemical reaction that started the fire.

8 Q. Is it your understanding that the majority of
9 time when Fumitoxin is applied it does not create a
10 fire?

11 A. Yes, applied correctly.

12 Q. Is it your understanding that every time
13 Fumitoxin -- are you testifying every time it's applied
14 contrary to the label it will cause a fire?

15 A. No. I don't know that every time it's applied
16 contrary to the label it will cause a fire.

17 Q. Have you ever investigated a fire where Fumitoxin
18 was applied contrary to the label that caused a fire --

19 A. Yes.

20 Q. Did not cause a fire?

21 A. Yes. That did cause a fire.

22 Q. When was that?

23 A. That was at Severn.

24 Q. How was that applied contrary to the label?

25 A. The application was allowed to pile. The tablets

1 were allowed to come in close proximity to each other.
2 In that case, a very large pile of tablets reacted and
3 the heat from the reaction was forced into the peanuts
4 and raised into their ignition temperature.

5 Q. In that case, was all of the Fumitoxin applied
6 through an access port in the silo?

7 A. Yes.

8 Q. So it was all dumped in one area on the peanuts?

9 A. Yes.

10 Q. That didn't happen in this case?

11 A. Well, not like that, but we do have a
12 concentration of the tablets in this case.

13 Q. What is the concentration level of the tablets at
14 any given point in the small or large pile?

15 A. The number of tablets?

16 Q. Yes.

17 A. Based on Percy Pate's deposition and what he told
18 ATF, he put a half of a flask in the small pile, which
19 would be about 250 tablets. So if you take 250 tablets
20 into the small pile -- hang on a second. Let me find my
21 notes. Let's look at what Percy said. I believe that's
22 what he says.

23 Okay. So we have two different indications that
24 Percy Pate put a half a flask in the small pile. First
25 he tells ATF that when they interviewed him

1 you throw all of those 250 in one spot, is that going to
2 cause a fire?

3 A. Yes.

4 Q. So it's the method of application that's as
5 important as the amount of product you're treating. Is
6 that fair to say?

7 A. Well, the method of application being like we
8 just said, whether the tablets can dissipate their heat
9 of reaction. If you look in your manual, it talks about
10 when you place tables on a piece of paper in a commodity
11 warehouse. Don't clump those tablets together. Don't
12 put more than 50 tablets in any one piece of paper, one
13 pile, one hole, one probe insertion because of what
14 we're talking about.

15 Q. Have you seen any documents discussing the --
16 establishing that there has been a fire as a result of
17 putting too many tablets in one spot?

18 A. Have I seen any documents to that effect?

19 Q. Anything discussing that that is a possibility of
20 a theoretical or a study in case where that had
21 occurred?

22 A. My Severn case is more than 250 peanuts in the
23 pile.

24 Q. I understand that. Let's not talk about Severn.
25 Let's talk about something that you have not generated.